

Announcements

Posted in the Last Two Weeks

Welcome! You are entering a brave new world of online education. As your instructor, I will be your guide and general problem-solver through this adventure. (Feel free to read my bio under "Staff Information" if you'd like to see who is driving this ship!) Please feel free to email me at any time with questions, comments, or general panic. I will do my best to solve the problem and suggest deep breathing exercises whenever necessary - for both of us!

You will notice a series of buttons on the left hand side of this home page. Start with Course Information to get an overview of the goals and syllabus of the course. The next thing you should do is visit Staff Information, where you can learn more about me, your instructor, as well as get instructions on how to complete your own personal page and read about your fellow classmates. You can then review the assignments and note their due dates. Remember there are additional assignments within each module and you will be responsible for those as well. The button called Course Documents will contain the bulk of the class material, organized by Modules in chronological order. (To view the documents, simply click on the Module Title). It is crucial to keep up with the information in a timely manner. Also, remember to check the Course Announcements each time you log on. This will help alert you to upcoming due dates, tips, etc. Good luck, and let's begin!

Nutrition Science and the Classroom

Course Information

Course Goals

The overall goal of this course is to encourage the integration of nutrition education into the curriculum. This course is supported by the Massachusetts Department of Education (Child Nutrition Services) through a Team Nutrition grant from the US Department of Agriculture (USDA): <http://fns.usda.gov/tn>

Upon completion of readings, projects, and assignments, the course participants will be able to:

1. Identify and use appropriate criteria in the determination of valid nutrition information and nutrition resources.
2. Discuss the major diet related health risks and the most recent scientifically based recommendations to reduce these risks.
3. Implement appropriate nutrition education curricula into the academic setting, utilizing a school-based "team" approach.
4. Participate in online discussions on nutrition issues and nutrition education.
5. Apply the information and activities learned in this course to the MA Health Curriculum Framework Learning Standards (or similar learning standards for your state).

Instructional Approach

The course participants will be expected to independently complete the readings and written assignments corresponding to each module in a timely fashion. Due dates will be listed with each assignment, and periodic reminders will be posted about project deadlines in the "Announcements" section. In addition, online discussions will be an integral part of interaction with classmates and the instructor.

You should expect to spend at least 6 hours per week of your time doing the assigned readings and projects. Remember: you are already saving at least 4 hours of time by not sitting in the classroom. Additionally, this is a four credit course (graduate level) and a specific amount (not to mention quality) of work is expected.

Be aware that there is one day where we will meet as a class for a four-hour period. This has been tentatively set for Saturday, March 31 (9-1 PM) at the Framingham State College campus. It is your responsibility to contact the instructor if you cannot make class. We will be using that time to have student presentations of the Nutrition Activity Project, as well as hosting a guest speaker from the New England Food and Dairy Council.

Grading Policies

You will have the opportunity to earn a total of 500 points for your grade. Major projects will count as 50% (=250 points), while minor assignments will contribute 20% (=100 points). Major projects include those listed in the "Assignments" section. Minor assignments are found within each module (highlighted in red). Participation in online discussions will be worth 30% (=150 points): see "Policy for Participation" below. There are no exams.

All written work will be evaluated on the basis of valid content, organization, clarity, original work, grammar, spelling, and appearance. Your final grade for this 4 credit course will be determined using the Framingham State College 4.0 grading scale. (A = 4.0).

Policy for Participation on Discussion Board: You will be instructed to participate in online discussions from time to time. This will be clearly assigned (in red) within the module documents. Generally, the thread of discussion is initiated by the instructor, although you may choose to start one if you wish. At times, you will be expected to contribute at least two original comments to a discussion thread: one in response to the original question, and one in response to a classmate. In determining your final participation grade, I will be looking not only at the quantity but also the quality (thoughtfulness, accuracy, relevance) of your responses. Please make your responses as concise as possible, and refrain from simple statements such as "I agree" which really don't contribute to the discussion.

E-mail Policy: Please remember that your fellow students have submitted their e-mail addresses for educational purposes, only. This means there should be no solicitation of jokes, political, religious, or commercial postings. Any personal information shared in discussions should be relevant to nutrition.

Required Text, Software

Whitney, Eleanor, and Sizer, Frances. Nutrition: Concepts and Controversies. 8th edition, Wadsworth Publishing Company, St. Paul, MN, 2000.

Nutrition Interactive CD Rom, Version 2.0. Wadsworth Publishing Company, St. Paul, NA, 2000.

Diet Analysis Plus 4.0, Wadsworth Publishing Company. This is a diet analysis program available for Windows and Macintosh on disk, or on CD-ROM for Windows. You may substitute a comparable diet analysis program if desired, to be approved by the instructor.

Syllabus

Module 1: Where Science Meets the Dinner Plate
Evaluating Nutrition Literature
Evaluating Internet Web Sites
Newspaper Article Critique

Module 2: Follow the Yellow Brick Road: Dietary Guidelines You Can Use

Principles of a Healthful Diet
Nutrient Density
Dietary Guidelines
The Food Guide Pyramid
Portion Sizes
Food Labels
Daily Reference Intakes (DRIs)

Module 3: Carbs You Can Count On: Sugars, Sweeteners and Fiber
Reading Food Labels for Sugar
Sugars and Artificial Sweeteners
Fabulous Fiber

Module 4: Fat: The Good, the Bad, and the Ugly
Lipids and Health
Fast Foods
The Great Olestra Debate

Module 5: Protein Power
Protein Requirements
Vegetarianism
Protein Supplementation in Sports

Module 6: Supporting Roles: Vitamins and Minerals
Vitamin and Mineral Review
Vitamin/Mineral Supplements

Module 7: Weighty Matters: When Too Much or Too Little is a Problem
Fad Diets
Weight Management Programs
Childhood Obesity
Body Image and Eating Disorders

Module 8: A Healthy Start: Nutrition During Pregnancy and Infancy
Pregnancy, Infant Feeding

Module 9: Nutrition to Grow On: Advice for Children and Teens
Nutrition for Children and Teens
School Meal Programs, Nutrition Education in Schools

Assignments

General Points

As mentioned in the Course Information Grading Policy, you will be responsible for completing the assignments listed in this section, as well as the minor assignments located within the module documents. Generally, the minor assignments are related to the subject matter for that module. Assignments will be clearly marked as such and will be printed in red so that you can identify them easily. The due dates for each assignment will be listed. All minor assignments are worth 10 points.

Classroom activities are printed in purple. These are suggested activities you can use with your students, not assignments for this course.

Finally, when links to web sites are mentioned, it is expected that you will complete these readings even though you may not be getting direct credit for doing them.

Nutrition Article Project

Part One:

Each participant will select and review an article from a magazine or scientific journal. The article subject can include anything related to health and nutrition. A written summary of the article review will be provided to the instructor based on the criteria listed below:

1. List title of article, author, source/reference.
2. If possible, check the credentials of the author. Is this person the best source for providing information on nutrition? Also, look for any references to accredited organizations within the article (i.e. a quote from the American Heart Association). This may help support the credibility of the author.
3. You may choose well-respected publications to search for articles, or you may use more "questionable" sources. In either case, remember you are reading critically for "quackery" as outlined in material from Module One class readings. You may also wish to review the questions from your textbook's "Do it" activity on page 10. You don't have to answer all of them, but it may help you in making your assessment.
4. Point out your perceived strengths and weaknesses of the article based on the tips mentioned in your readings.
5. Your review should not exceed one page.

Part Two:

In addition, a brief overview and selected comments should be posted to the discussion board for other students to read. You should clearly and concisely state the major points of your article, including your personal reaction to the validity and accuracy of the content. Your classmates will then be able to earn points for making meaningful responses to your posting. Please limit your original posting to 1 paragraph.

Worth 50 points.

Due date: 2/7/00

Diet Analysis Project

Part One:

1. Complete a 48-hour food diary of your personal eating habits. Remember to include everything consumed during this time period: don't forget beverages, condiments, etc. Be as specific as possible. For example, if you ate a sandwich, describe all of the ingredients separately because this is how you will need to enter it into the computer: i.e. 2 slices whole wheat bread, 2 oz. turkey (white meat, no skin), 1 oz. Swiss cheese, 1 tsp. mayonnaise (regular), 2 slices tomato. In addition, it is very important to be accurate when estimating and recording portion sizes. You may want to measure or weigh some of your foods. Finally, it may be helpful to record your food consumption immediately rather than waiting until the end of the day: you may have trouble remembering it all. The more accurate the information you put into the computer, the more meaningful the results will be. Keeping this in mind, it makes sense to record your most "typical" day - flaws and all - so that you can get a chance to evaluate your "true" diet. Don't worry - you will not be graded on the quality of your diet. I'm more interested in hearing your interpretation of your diet analysis results.
2. Using the Wadsworth Publishing Company's Diet Analysis Plus Program (or a comparable computer program), enter your 2-day food diary information and follow instructions for the final dietary analysis. You should get a print-out of your Bar Graph Report for future reference in answering written questions. This is the report which compares what you need (determined under Profile) to what you actually consumed. It is measured as a percentage of the DRI achieved (% Goal).

Part Two:

Using the computer-generated reports, please answer the following questions and submit your written responses to the instructor.

1. Based on your average 2-day intake, which nutrients were greater than 100% Goal?
2. Which nutrients were deficient (<75% goal)?
3. What were the estimated percentages of calories from carbohydrate, protein and fat?
4. Were there any trends/results of your diet analysis which surprised you?
5. Which "flaws" in your diet concern you the most?
6. List some reasons why these flaws might exist (e.g. lack of prior awareness, little time to plan/prepare meals, etc.
7. Suggest some steps you might take to correct these flaws.
8. List some positive aspects of your eating habits.
9. Discuss possible uses (if any) of a diet analysis program in your classroom. If this is not suitable for your classroom, suggest an alternative vehicle for this tool.

This assignment is worth 50 points.

This project is due to the instructor by 2/28/00.

Nutrition Activity Project

Two or three students will work together with the objective of developing and sharing an original nutrition education activity with the class. The activity may relate to any age group and the presentation should be 15-20 minutes long. The presentors will involve the class participants in the activity. Students are responsible for distributing the workload among themselves so that everyone contributes.

We will meet as a class for the presentation of the nutrition activity projects. A written report will be due at the same time.

1. Include a brief written outline of the activity and a listing of all members of the group.
2. To which learning strand in the Health Curriculum Framework would your activity apply? See <http://www.doe.mass.edu/frameworks/current.html>
3. Describe your evaluation method for making sure students have met the learning standard.
4. Include copies of any papers (worksheets, etc.) that would be used by participants in order to facilitate the activity.

This project is worth 50 points. Date for class meeting: 3/31/00 from 9-1 PM

Nutrition Curriculum Project

The purpose of this project is to become more aware of available nutrition curricula and to objectively evaluate their usefulness, validity, effectiveness, and ease of integration into the classroom setting. Opportunities for locating curricula will be listed below.

Part One:

1. Read and review an existing nutrition education curriculum.
2. Prepare a report of the curriculum which includes the following:
 - a. Name of curriculum
 - b. Source
 - c. Cost
 - d. Intended grade level
 - e. Appropriateness of stated grade level
 - f. Evaluation of content for validity, accuracy
 - g. Do the activities effectively support the content?
 - h. How easy is the curriculum to adapt and implement?
 - i. What are the limitations of the materials?
 - j. To which learning strand of the Health Curriculum Frameworks would this curriculum apply?
What is the goal in terms of what the student should be learning?

Part Two:

Describe how you plan to use this nutrition curriculum in your classroom setting. It is expected that you will actually implement part or all of the planned curriculum before the end of the course. (Contact instructor in cases of extenuating circumstances). For instance, use one of the lesson plans in your classroom and then evaluate how it went. You are encouraged to include another educator in your school system where applicable (i.e. school nurse, guidance counselor, food service director, etc.)

In your written report, describe the following:

- a. How did your students respond?
- b. Did they participate?
- c. What were the strengths/weaknesses of the curriculum as you actually used it? Was this different from your predictions?
- d. Would you change any component of the curriculum based on your particular situation? If so, what would you change and why?

Part Three:

Please post a summary of your curriculum review on the discussion board. This way students in the class can learn from each other and can save time researching curricula of interest. Go to the discussion board and see the thread titled "Nutrition Curriculum Project" for more instructions.

The written report should not exceed three typed pages. This project counts as 20% of your grade and is due at the end of the course.

Curricula can be found in a variety of places.

1. The first place to check would be your school resources. One may have already been purchased and available for your use.
2. The John C. Stalker Institute of Food and Nutrition at Framingham State College has a resource library directory of nutrition resources. It is available to teachers in the state of MA. (If you haven't been receiving brochures for the workshops they sponsor, contact them to get on the mailing list). The library includes not only nutrition and health curricula, but also a variety of texts, videos, and teaching kits. You can visit the web site at: <http://www.johnstalkerinstitute.org> Resources can be borrowed for 2 week periods of time. Please check the web site for information on library hours and the lending policy.
Phone: (508) 626-4756
3. You can try to obtain curricula on your own if you choose. Your school may have a budget and be willing to cover the cost. Some curricula are free. Try non-profit organizations such as the National Cancer Institute, The American Heart Association and Center for Science in the Public Interest.
4. Check with your school Food Service Director to see if your school participates in Team Nutrition. Participating schools have received free, high quality curricula from this government program. You can also view (and download) the on-line curricula with Adobe Reader software (free and downloadable). The curricula are lengthy but well worth printing for your personal use. The Middle School curriculum "YourSELF" comes highly recommended.

Tip: Try choosing a curriculum that personally interests you and would fit well into your current teaching situation. Make sure that at least one lesson plan and/or student activity would satisfy a learning strand in the Health Frameworks. Once you have made your selection, please send me an email and let me know which one you have chosen. Please email me by March 7 with the name of your curriculum and the author/sponsoring organization. This project is worth 100 points. Due to instructor by 5/11/00

Instructor Information

Sharon Gallagher, MEd, RD, CDE

Email:

gallagher76@msn.com

Personal Link:

<http://>

Other Information:

My educational background consists of a BS in Human Nutrition from Cornell University, and a Master's of Education from Framingham State College. I am a Registered Dietitian and a Certified Diabetes Educator. I have been teaching for Framingham State College as an adjunct instructor since 1994. I have taught the traditional version of this course 3 times, and the advanced level (Contemporary Issues in Nutrition) twice. This will be my first experience teaching the course online and I am very excited about it. You wouldn't believe how much I've learned about computer technology since taking on this project! So don't despair if your computer skills are on the weaker side. Mine were, too, and I survived!

Participants of this course generally are teachers from the elementary, middle, and high school levels. They represent a variety of disciplines, including (but not limited to): health, family and consumer sciences, physical education, and science.

Now I would like to know more about each one of you. Under the section "Student Tools" go to "Edit Your Homepage" and fill in the text boxes with information about yourself. You may want to identify your area of teaching expertise (subject and grade level), which subjects you are certified to teach, or any other personal information you wish to share. I'd also like to know how many of you have taken an online course in the past, and your overall experience with computers. After you have done this, you can read the biographies of your fellow classmates to get a better idea of the people taking this course with you. Go to "Communication Center" > "Student Pages" to view other students' homepages.

Some personal information: As you can see by my photo, I am the proud mother of a 4 year old girl. This experience has been profoundly humbling (to say the least) in re-shaping my views on promoting healthful eating in children! We will be sharing many personal experiences like this in relation to what we learn in the course. Nutrition is so applicable to everyday life, don't you think?

Current Location: Module 1 - Where Science Meets the Dinner Plate

1-1: Reading Assignment

Learning to decipher scientific information is a skill that requires constant vigilance. This is especially true with the science of nutrition, a field in which information seems to change daily and is often filled with contradictory messages. My clients and students will often ask me: "If the scientists are all saying something different, how am I supposed to believe anything I hear?" It may be difficult to understand every thing you read about nutrition – after all, you are certainly not expected to be an expert in the field. There are, however, some general tips you can use to help you read critically and keep an open yet skeptical mind as you sift through the latest Internet research. Whether reading a magazine or surfing though the Net, the tips can usually be applied to either form of communication.

To begin your self-study on the science of nutrition, your assigned readings are listed below:
Concepts and Controversies textbook, pp. 8-12, 22-26.

Nutrition Interactive CD-ROM: Outline > Quackery and Sensationalism

The American Dietetic Association's Position Statement on Food and Nutrition

Misinformation: <http://www.eatright.org/amisinfo.html>

ALL ASSIGNMENTS IN THIS MODULE ARE DUE BY 2/9/00

1-2: Evaluating Nutrition Literature

If you are evaluating published nutrition information in a journal or magazine, consider some of these questions as a way to judge credibility.

- What are the credentials of the author(s)? What do the abbreviations after the name(s) mean? Do they enhance the author's credibility?

- Is the author affiliated with an organization or institution? Does the affiliation with the organization or institution enhance the authors' credibility?
- If the source is a periodical, does it have an editorial board? Do the editors' credentials enhance the article's credibility?
- Is scientific research being presented or discussed? Is the research current? If so, what specific kinds of research or data are presented or cited to support the ideas?
- Were references listed to allow readers to investigate the information's original source? Were full citations provided?
- What are the article's conclusions? Are they supported by the research discussion?

Of course, when reading a general nutrition article from a publication such as *Good Housekeeping*, one wouldn't expect to see full reference citations or an in-depth discussion of research methods used. However, good nutrition information should be backed up by at least a credible organization (i.e. American Heart Association) or written by an author with respected credentials (i.e. Registered Dietitian, or RD). The more supporting documentation provided, the more trustworthy the article.

1-3: Evaluating Internet Web Sites

- More than 17 million US adults are searching for medical or health information on the Internet.
- It has been predicted that the Internet and whatever it evolves into will be the primary means of accessing information for much of the population within the next 10 years.
- No regulation exists to control the content; therefore anybody can post anything. The user still needs to exercise good judgment to find the truth.
- The burden of proof is on scientists to prove a new therapy, supplement, or diet "cure". Any claim should be disbelieved until proven.
- Caution: If a tone of defensiveness is detected, or when no scientific backup is offered, information is likely to be unreliable.

Questions to ask when evaluating a Web site:

WHO? Identify the author, if it lists one. You may not recognize the name, but are the credentials trustworthy? If only an email address is provided, be wary.

WHERE? What organization sponsors the Web site? Check the 3- letter suffix for a clue: .edu (educational institutions), .org (organizations, often nonprofit), and .gov (government) tend to carry more credibility than those ending in .com (commercial).

Be aware that even reputable commercial links may have unreliable links.

WHY? What is the purpose of the Web site? Is it promoting health or selling a product?

Don't trust testimonials without scientific references, even from experts. Reputable researchers may be linked to a product without their knowledge or consent.

WHEN? How long has it been since the site was last updated? Sites without a date or those not reviewed frequently are less trustworthy, especially since the science of nutrition is constantly changing.

WHAT? The content of the site can be evaluated by using standard guidelines for print media. Try looking for the HONcode icon, which is a seal of approval intended to offer Internet users a degree of confidence in that site's accuracy. Realize that just because it's on the Internet doesn't mean it's accurate. The vast majority of web sites have no standards or peer review for the products or practices they promote.

Tip: Log onto the Tufts Nutrition Navigator site. The address is: <http://www.navigator.tufts.edu>

This site rates web sites according to content, graphics, organization, and ease of navigation. It also offers links to the sites, and categorizes reviews according to interest group (i.e. educators, parents, kids, etc.) It is a great resource for finding reputable nutrition sites if you don't know where to start.

Read a few reviews from those with the highest rating (24) and then click on the link to review the site yourself. As a comparison, find some of the lowest rated sites and see if you agree with the rating after you check it out for yourself.

Tip: Another great web site to add to your reference library is: <http://www.quackwatch.com> The sponsor, National Council Against Health Fraud, is a nonprofit organization whose purpose is to combat health-related frauds, myths, fads, and fallacies. It's a great place to check out any questionable nutrition advice you might have heard.

1-4: Newspaper Article Critique

The following article was taken from a local newspaper. Read it carefully, using the questions from "Evaluating Nutrition Literature". Next, post one or two of your impressions about this article on the discussion board. Your comment might be favorable, such as "contains quote from a qualified professional (M.D.)", or it might be unfavorable: "no mention of the name of the American medical journal in which the study was published - was it peer reviewed?" You will earn points for participating in this discussion and responding to your classmates' comments, where applicable. **Your posting is due by 2/9/00.**

Doctor's Discovery May End Obesity

HILTON HEAD, S.C. - A doctor has discovered that an ingredient found in a small fruit grown in Asia, combined with an ingredient praised by the U.S. Department of Agriculture can help cause significant weight loss.

In a study reported in a prestigious American medical journal, Dr. Anthony A. Conte, M.D, reported that the formula, now called Bio-Rex 3000, caused patients to lose more than twice as much weight as a control group on the same fat reduced diet. Neither group was instructed to decrease the amount of food they ate or to increase their exercise levels. An article published in the *American Journal of Clinical Nutrition* says that you don't have to reduce the amount of food you eat to lose weight, provided that you limit the fat.

Scientists suggest that the mechanism behind the weight reduction may include decreasing sugar cravings and interruption of the "Krebs Cycle", an important step in the body's fat storage process. "The best part of this unique discovery is that it is not a drug, but a safe dietary food supplement" says Dr. Conte. The Asian fruit, called garcinia, is similar to citrus fruit found in the United States with one big exception – it may help some people fight obesity! While Dr. Conte's study may be preliminary, the exclusive North American distributor, Phillips Gulf Copt., is calling the Bio-Rex 3000 supplement "Nature's Ideal Diet Aid."

According to a spokesperson for the company, Bio-Rex 3000 is now available on a limited basis through pharmacies and nutrition stores. Call 1-800-729-8446 or contact through the internet @

<http://www.phillipsgulf.com/biorex3000>.

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Bio-Rex 3000 is available locally at: **Walgreens**

Current Location: Module 2 - Follow the Yellow Brick Road: Dietary Guidelines You Can Use

2-1: Reading Assignments

Your readings for Module 2 are in your textbook: pp. 1-8,14-19, and 27-58. On the Nutrition Interactive CD-ROM, review Outline > Diet Planning (all sections), RNA, RNI. Once you've completed the readings and explorations/applications on the CD-ROM, return to the activities listed below. **ALL ASSIGNMENTS IN THIS MODULE ARE DUE BY 2/23/00.**

2-2: Principles of a Healthful Diet

Now that you've read about the five characteristics of a nutritious diet (pp.17-18 in textbook), you should be able to identify which principle is being described in the scenarios below. At the end of the page, check your answers to see if you matched them up correctly.

Scenario 1:

Maria tends to eat the same way every day. She eats from all of the food groups of the Food Guide Pyramid, and the servings she consumes are usually within the recommended range. However, one of her diet flaws is that her meals tend to consist of the same specific foods most days. For example, she eats fruits and vegetables, but usually eats only apples, carrots, bananas, and orange juice. Which of the five principles could Maria improve in her diet?

Scenario 2:

Bob likes to eat. For most of his life, he could eat whatever he wanted and was able to maintain his weight. Lately, he's noticed his pants are getting tight in the waist. Which dietary principle may need more attention?

Scenario 3:

Jen prides herself on making healthful food choices on a regular basis. She eats from all of the food groups and within the recommended serving range. She alternates the types of food she chooses within each food category to increase the variety of nutrients. She tries to avoid most added fats, sugars, and salt in her diet, focusing on whole foods and eliminating most processed items. Because of her commitment to healthful eating the majority of the time, Jen is able to occasionally eat some of her favorite foods, such as ice cream, steak, and butter and is still able to maintain a desirable weight. Which principle of a nutritious diet is Jen illustrating?

Scenario 4:

Larry hasn't been feeling well lately. He's been tired and pale and has frequent headaches. A recent physical indicated he is suffering from iron-deficiency anemia. Which dietary principle is lacking?

Scenario 5:

Carrie has recently decided to try a weight loss diet she saw advertised in a magazine. For two weeks, she has been eating a strict regimen of fruits, vegetables, protein, and dairy. The diet strictly prohibits any servings from the grain/bread/cereal food group. She has noticed she is often dizzy and doesn't have her usual amount of energy. Which compromised dietary principle may be causing the problem?

Answers:

Scenario 1: variety, Scenario 2: calorie control, Scenario 3: moderation, Scenario 4: adequacy, Scenario 5: balance

2-3: Nutrient Density

Pages 18-19 of your textbook describe the concept of nutrient density in one's diet. Remember, the term defines foods high in nutrient density as having many nutrients relative to the calorie, or energy content of the food.

Examples:

Higher Nutrient Density

Baked potato
Rolled oats
Fresh strawberries
Fresh orange juice
Chocolate pudding

Lower Nutrient Density

French fries
Instant sweetened oatmeal
Strawberry fruit roll-up
Orange "drink"
Chocolate bar

Now it's your turn! Look around your kitchen for examples of high and low nutrient density foods. What are some changes you might like to make in your food selections? You can include your comments and conclusions as part of your diet analysis project.

Pages 52-54 in your textbook give a nice comparison of different eating styles based on nutrient density. See Figure 2-9 for the analysis that highlights the outcome in terms of meeting the Percentage of Daily Value for energy, fiber, total fat, saturated fat, and Vitamin C.

It can be challenging to teach the concept of nutrition density in the classroom. When reviewing the examples listed above, it may make sense intuitively why the higher nutrient density items were chosen; after all, they just "sound" healthier, don't they? But how do you make the decision with items that are not so obvious, such as pizza? Students often want to classify pizza as "junk food" because they know it is high in fat calories. This may be true, however, it is also high in nutrients. Therefore, it cannot be classified as a food with low nutrient density.

One of the best ways to illustrate nutrient density visually is with a popular teaching tool developed by the New England Dairy and Food Council. The comparison cards look very similar to Figure 1-4 on page 19 in your textbook. Bar graphs compare nutrients vs. energy (calories). If the calorie bar on the graph is higher than the nutrient bars for that food, then it can be classified as having low nutrient density. To find out more about the comparison cards, call 1-800-939-0002. You can also check their web site: <http://www.newenglanddairycouncil.org> Caution: they often change the materials offered on the web site, and the comparison cards may not be listed. Another way to illustrate this concept in the classroom is a tool you can create yourself. Get a clear bowl and some cotton balls. Take about half of the cotton balls and color them with 2 or 3 different colors. (Try using spray paint or dip them in food coloring). Place them in a bowl with white cotton balls in a 1:1 ratio. Have students take a handful of cotton balls. They will probably get an even number of white and colored cotton balls, representing a food with matching calories and nutrients. Next, take out most of the colored cotton balls and have the majority be white. A handful will illustrate a food of low nutrient density, with minimal nutrients and mostly calories.

2-4: Dietary Guidelines

Nutrition recommendations tend to change over time based on the latest scientific research. To complicate matters further, the interpretation of nutrition findings often leads to public confusion, as we discussed in Module 1, The Science of Nutrition. To help rectify this problem, the US government has come up with a set of guidelines to state the current nutrition goals for Americans. These are referred to as the Dietary Guidelines for Americans. They are intended to promote general nutrition advice within the context of today's health problems. In the last century our major health problems have tended toward those related to *overnutrition*, such as heart disease resulting from too much saturated fat and cholesterol in the diet. Thus, one of the latest recommendations calls for choosing a diet low in fat, saturated fat, and cholesterol. In the past,

dietary guidelines might have focused on eating minimum amounts of various vitamins and minerals since more public health problems were a result of *undernutrition*. If you read pages 34-36 in your textbook, you will see a good overview of the history of the Dietary Guidelines and why they were developed. Unfortunately, the version listed in the textbook is already outdated, as is often the case with textbooks. To view the newest edition of the Dietary Guidelines (just released for the year 2000), go to <http://www.usda.gov/cnpp>. You can download the free, 39-page copy that contains a description of the new guidelines and many helpful resources in relation to each guideline. These include:

- Body Mass Index charts for evaluating your weight in terms of health risk
- Risk factors for chronic disease
- Tips for increasing physical activity
- The Food Guide Pyramid
- Label reading
- Food safety
- Types of fats and a listing of saturated fat content for various foods
- How to avoid added sugars, salt in the diet
- Alcohol in Moderation

It is an excellent reference, and you might want to print out a hard copy to keep in your files. Before you can download this government publication, you will need to install the Adobe Acrobat Reader software (if you don't already have it). This can be downloaded and installed for free through the government web site. Beware: it takes a few minutes to download, so be patient. If you have trouble downloading it to your computer, you can call (202) 418-2312, or write to the Center for Nutrition Policy and Promotion, 1120 20th Street, NW, Suite 200, North Lobby, Washington, DC 20036.

2-5: The Food Guide Pyramid

The textbook readings on the Food Guide Pyramid should have sounded very familiar to you. Perhaps too familiar! Most of you are who teach the Pyramid in your classrooms already know the basic messages and which nutrients are found in each food group. For the purposes of this course, we will be exploring creative and innovative ways of teaching the Food Pyramid in the classroom, as well as sharing any educational resources found to be helpful. Review the "Do it" activity on p. 55 of your textbook. It describes a creative way of scoring your diet against the Food Guide Pyramid based on adherence to the food group recommendations and dietary variety. There is also an online interactive version found at <http://www.usda.gov/cnpp>. Click on Interactive Healthy Eating Index and follow online instructions. (Caution: It's a little tedious entering the foods, but the result is worth it.)

Here is a listing of "must have" web sites for your reference library:

<http://www.nal.usda.gov/fnic/Fpyr/pyramid.html>

This site hosts the "official" government publication: *the USDA Food Guide Pyramid Booklet*. In addition, check out: *A Resource for Nutrition Educators*. To download a free copy, you need the Adobe Acrobat Reader (can be downloaded for free at this site). Be careful before you hit "print": the booklet is 131 pages long!

At this site, you can also order Food Guide Pyramid brochures and click on the interactive food pyramid graphic.

You might also want to check out the first button on the left-hand column: FNIC (Food and Nutrition Information Center) Resource List. You will find a listing of materials that can be borrowed from the National Agricultural Library.

<http://www.usda.gov/cnpp/KidsPyra/>

Go to this site for the newly released version of the children's Food Guide Pyramid, also produced by the USDA. It comes with a booklet: *Tips for using the FGP for Young Children*, which can be downloaded for free. You will find reproducible black and white masters, posters, and other educational materials at very reasonable prices.

<http://www.nal.usda.gov/fnic/etext/000023.html>

Another page on the USDA site, listing ethnic/cultural and special audience versions of the Food Guide Pyramid.

Assignment: Discussion Opportunity

Here is an opportunity for you to earn points toward your grade while sharing with your classmates. Go to the discussion board and post any educational aid you have found useful while teaching the Food Guide Pyramid. This can be a web site, book, teaching tool, activity, etc. If you haven't had experience teaching the Food Guide Pyramid before, try searching the Internet and review a web site that looks interesting, or describe an activity that you think might be useful.

Tip: If you think your group may be planning the Nutrition Activity Project/Presentation based on the Food Guide Pyramid, be careful not to give away your ideas here!

Your posting is due to the discussion board by 2/23/00.

2-6: Portion Sizes

How do you teach the concept of portion size? If you're teaching the Food Guide Pyramid, it's important to explain a few major points:

- The term "serving" (according to the Pyramid) does not necessarily limit actual portion size at that meal. For example, a serving of pasta is listed as $\frac{1}{2}$ cup. This does not restrict someone to eating just $\frac{1}{2}$ cup at one time. Let's say the person chooses to eat 2 cups of pasta for dinner. This represents 4 servings from the grain/bread/cereal group. No problem – it just needs to be counted.
- This brings us to the next point: Know how much you are eating! How do you know if you've portioned out 1 cup or 2 cups? Measure it!

Classroom Activity: Here is a great activity to do in the classroom. Bring in several different foods, measured and/or weighed in advance. The chart below lists some good examples (commonly underestimated foods). You might also want to add a large bagel from a bakery (with a small frozen bagel as a comparison) and a large bakery muffin (with homemade muffin as a comparison). Place a card next to each food with its correct weight/measurement written on the back. (You might also want to add the equivalents in terms of the Food Guide Pyramid servings). Have students look at each food and try to guess the portion size. They can then turn the card over and check their answer. This creates a great discussion about how easy it is to underestimate what we are actually eating. For more information about our tendency to "overdo" on portion sizes, check out the article in *Nutrition Action Healthletter* at the following web site: <http://www.cspinet.org> Click on the button "Nutrition Action Healthletter", then scroll down to 1998 Highlights. Click on "The Pressure to Eat", July/Aug. 1998. Scroll down to the end of the article titled: "Supersize Food, Supersize People". You can read the interview on pediatric obesity if you'd like, although that is a topic for another discussion!

- Another way to teach portion size is by using visual aids.

Food

1/2 cup ice cream, pudding
2 Tbsp. Peanut butter, salad dressing
1 tsp. Butter, margarine
1 oz. Snack food (i.e. nuts, hard candy)
1 oz. Snack food (i.e. chips, pretzels)
1 oz. Cheese
1 "medium" potato
1/2 cup potato, rice, pasta
1 pancake
1 cup dried cereal
3 oz. Meat
1 cup chopped vegetables or lettuce
1 "medium" fruit

Visual Comparison

Tennis ball
ping pong ball
1 large die (dice)
LEVEL (small) handful
HEAPING (large) handful
3 black dominoes or 2 9-volt batteries
Computer mouse
Hockey puck or 1/2 baseball
Diameter of a compact disk (CD)
HEAPING (large) handful
Deck of cards or cassette tape in case
Woman's fist
Tennis ball

1/2 cup fruit
1/4 cup dried fruit

1/2 baseball
1 large egg

Classroom Activity: You could bring in some of these items listed in the visual comparison column and have the students match them to the foods. This will help increase retention of the lesson.

2-7: Food Labels

Pages 47-51 in your textbook summarize important information on food labels. In addition to this reading, you should review the following excellent reference: go to <http://www.healthfinder.gov/searchoptions/topicsaz.htm>. At the search box, type in "food labels". Under Web Resources, click on "Food Labeling and Nutrition". Under "Using the Food Label", select "Guidance on How to Understand and Use the Nutrition Facts Panel on Food Labels". This may help to clarify many of the terms and issues around food labeling. Be sure to read the section on serving sizes since it is a common area for confusion with students (and consumers!) Another aspect of food labels students often find confusing is the Percentage Daily Value (%DV). This column tells us how much one serving of that particular food supplies in relation to certain nutritional goals. In the case of fat, for example, 10% DV would indicate this food supplies 10% of all the fat we should be eating for the day. Depending on what that food is, it may seem reasonable or it may not. If it's a main entree, then it's probably reasonable. If it's for a condiment, one might want to consider if this item is worth using up 10% of all the fat he or she can have in a day.

DVs set **adequacy** standards for iron, calcium, Vitamins A and C, and fiber. This means our goal is to achieve at least a minimum amount of these nutrients. <10% of any of these nutrients is a poor source, 10-20% would be considered a fair source, and anything >20% is considered to be a good source.

On the other hand, total fat, saturated fat, cholesterol, and sodium have **moderation** standards, implying that we should set goals to limit the amount we consume. As an example, if a food supplies >20% of sodium, it would be considered a high source. If it supplies less than 10% it is a low source.

Daily Values (DVs) were established in order to allow for comparisons among foods. They are not to be confused with DRIs (more on this in the next section). The limitation is that DVs on food labels don't necessarily apply to all age groups. Assume they will be useful for most healthy adults.

Calories per gram section: Remember that this section appears on all labels and doesn't change. It tells us that the numbers listed on the label are based on 2000 calories. If you require significantly more or less than this amount, you would have to interpret the values differently. Labels show how the standards change for a 2500 calorie level, but not for anything less than 2000 calories. Here is where I personally find the Nutrition Facts label to be less helpful. I don't know about you, but I have a hard enough time explaining the %DV section without having to teach adjustments to the rule!

Health Claims: The Labeling Laws re: health claims are explained on pages 49-50. However, since our textbook was published there has been an additional health claim approved and added to the list. To read this update, go to <http://www.wadsworth.com>. Scroll down to the column on the right titled "Disciplines" and click on Nutrition. At the screen "Nutrition Resource Center", click on Nutrition Update. In the January 2000 section, you will find an addendum re: health claims for soy.

Classroom Activity: The Dairy Council used to sell a great activity called "Label-Ease" to teach label reading. Although they don't produce the materials any longer, it's worth describing here. *Step One:* Have students make a fist to start the activity. Begin reading from the bottom of the food label and work your way up. Raise one finger for each nutrient (calcium, iron, vitamins A and C, protein, fiber) that has 10% or more listed for its percent daily value. (Keep fingers up).

Step Two: Look at the top portion of the label. Focus on either total fat grams or calories, but not both. If the food has **either** > 10% total fat or > 200 calories per serving, put a finger down.

Step Three: Determine your score. If you have at least one finger still standing, the food you are testing is nutritious or a "nutrient dense" food. If you have no fingers up, the food is less nutritious.

Let's try an example together:

Yogurt, plain, low fat

Nutrition Facts

Serving Size: 1 cup

Servings per container: 1

Calories 140 Calories from Fat 35

% Daily Value

Total Fat 4 g 6%

Saturated fat 2.5 g 11%

Cholesterol 15 mg 5%

Sodium 160 mg 7%

Total Carbohydrate 16 g 5%

Dietary Fiber 0 g 0%

Sugars 12 g

Protein 12 g 24%

Vitamin A 4% Vitamin C 4%

Calcium 40% Iron 0%

- Percent Daily values are based on a 2,000 calorie diet.

Your daily value may be higher or lower depending on

Your calorie needs.

Do you have any fingers left standing? Yes (one finger up for calcium, one up for protein.

Two remain up at the end.)

Hints on using the Label Ease activity:

- You may want to specify *which* finger should be left standing (or disallow the middle finger as the designated remainder). For those of you teaching middle school, especially, no further explanation should be needed here!
- You may notice that some grain products (such as crackers) will score as a low nutrient density food (= no fingers left standing). The explanation to give here would be that the label does not "count" B vitamins, and since this is the major nutrient in grains the food will not receive the "credit" it deserves.
- This activity provides an opportunity to discuss how we refer to foods that score poorly. Most students will want to classify a food with low nutrient density as "bad" or "junk food". It's worth reviewing the concept that foods are not necessarily good or bad; rather it is more important to look at how it fits into the overall diet. If the food scored as being "less nutritious", challenge students to consider how often they eat that food, the portion size they usually eat, and how they could still include it within the context of a balanced diet.

2-8: Daily Reference Intakes (DRIs)

Anyone who can explain Daily Reference Intakes (DRIs) to the rest of us gets an automatic "A" for the course. JUST KIDDING!! Thought that would get your attention. Seriously, the DRIs can be pretty confusing. Pages 28-33 in your textbook explain it well, but you may need to read it several times until it starts to sink in. Here is a little quiz to help you process the information.

Match the definition with the description:

- ____ Tolerable Upper Intake Levels (UL)
- ____ Recommended Dietary Allowances (RDA)
- ____ Estimated Average Requirements (EAR)
- ____ Adequate Intakes (AI)

- A. This represents the intake that meets the nutrient need of almost all individuals (97-98%) in a group. It has been the standard for measuring and assessing nutrient intakes for the past 50 years.
- B. These are population-wide average nutrient requirements used in nutrition research and policy-making. They provide the basis upon which RDA values are set. At this intake level, half of the individuals in a group will meet the estimated nutrient need.
- C. The highest level of nutrient intake likely to result in no additional risk of adverse health effects for nearly all individuals in the group.
- D. This refers to the reference intakes to meet the needs of all individuals in a group, and is set whenever scientific data are insufficient to allow establishment of an RDA value.

OK, ready for the answers? In order, you should have chosen: C, A, B, and D.

The National Academy of Sciences continually reviews nutrition research data and periodically will revise recommendations based on this research. The new DRIs are essentially a work in progress. Notice that on the inside front cover of your textbook, only a select number of nutrients have 1997-1998 DRIs. (Compare this to the next page, where the remaining nutrients from the 1989 version of the RDAs are still waiting for their "makeover".) The most recent changes were made to the B vitamins, pantothenic acid, biotin, and choline. This document was published this year.

Assignment: This is a test of your searching skills! Go to the site: <http://www.nap.edu> In the search box, type folate. Find the publication that lists the B vitamins (including folate), pantothenic acid, biotin, and choline (2000). Click on the table of contents, then on folate (#8) pp. 196-305.

Answer the following questions:

1. What is the current RDA for folate (for men and women)?
2. What is the Tolerated Upper Limit (UL) for adults?
3. When did fortification of cereal grains with folate become mandatory for enriched grains in the US?

Once you have found the answers to these questions, email your responses to me by 2/23/00.

DRI changes are being proposed for the antioxidant nutrients, particularly for Vitamin C. To read more about this, return to the wadsworth web site: <http://www.wadsworth.com> > Nutrition>Nutrition Updates>July 1999.

Current Location: Module 3 - Carbs You Can Count On: Sugars, Sweeteners, and Fiber

3-1: Reading Assignment

Please read Chapter 4: The Carbohydrates: Sugar, Starch, Glycogen, and Fiber (pp. 93-131) in your textbook. Then review the CD-ROM lesson: Outline > Carbohydrates. You may now proceed to the rest of the activities in this module.

ASSIGNMENTS IN THIS MODULE ARE DUE EITHER BY 3/2/00 OR 3/9/00. CHECK WITHIN EACH SECTION FOR ACTUAL DATES.

3-2: Reading Food Labels for Sugar

Did you know that Americans eat an average of 20 teaspoons of added sugar every day? This fact was reported by a recent survey from the U.S. Department of Agriculture. According to the USDA, our typical consumption clearly exceeds current recommendations. Added to that, our total intake is increasing all the time, most likely due to increased consumption of processed foods. It's been estimated that we're eating 20% more sugar than we did a decade ago. (See related article at: http://www.cspinet.org/new/sugar_limit.html)

So what is the recommended allowance for sugar in our diets? The USDA suggests limiting added sugar to 6 teaspoons for someone eating 1600 calories, 10 teaspoons for 2000 calories, and 18 teaspoons for 2800 calories. This represents about 6-10% of total calories from added sugar.

Some organizations have strong opinions about the use of sugar in the American diet. For an alternate point of view, read the report entitled "Liquid Candy" (Highlights and List of Recommendations) as well as the press release from Oct. 21, 1998 at the following web site: <http://www.cspinet.org/sodapop>.

After reading the article on soda pop, you may want to have a discussion with your students about the amount that they drink. Then review

<http://www.cspinet.org/reports/sugar/sweettips.html> for suggestions on decreasing sugar in the diet. You can follow up with a classroom activity to show visual representations of sugar in food.

Classroom Activity: Bring in some foods that have added sugar, a bag of sugar, clear plastic cups, and a teaspoon. (For a list of possible food items, see Table 4-11 on p. 118 in your textbook. These work well). On index cards, list the number of teaspoons of sugar for each of the foods you've chosen (one card for each food). Working in groups, the students try to match the food items to the card with the correct number of teaspoons of sugar. After they have made their selections, review the correct pairings. Then have them measure out the actual amount of sugar for each item using the teaspoon and the plastic cups. They will have an eye-opening experience seeing just how much sugar is in their favorite foods!

Reading Food Labels

When reading a food label for sugar, you should direct your attention to several areas. First, notice the ingredient list. Items appear in order of highest to lowest concentration. If sugar appears as one of the first 3 ingredients, that food is likely to be high in sugar (although there are sometimes exceptions to this guideline). Review Table 4-8, page 117 in your textbook, for alternate terms for sugar. The second place on the label to check is on the **Nutrition Facts** panel. Look at **Total Carbohydrates** and below that, *sugars*. In looking at a label for Kix™ cereal, sugar is the third ingredient, leading one to assume there is a lot of added sugar in this product. However, on the **Nutrition Facts** panel, *sugars* are listed only as 3 grams, which is not quite one teaspoon per serving. This should not be considered an excessive amount.

Did you know that *sugars* represents both added and naturally occurring sugars in foods? For example, in reading the label on Raisin Bran™ cereal, *sugars* would reflect both the added sucrose and the naturally occurring fructose from the raisins. Even though the Raisin Bran appears to have a high sugar content, much of that sugar is of a healthful nature.

The consumer advocacy group Center for Science in the Public Interest has filed a petition to require the Food and Drug Administration to set a Daily Value of 40 grams for added sugars on labels. To read the press release, click on this link: <http://www.cspinet.org/new/sugar.html>

Assignment: Reading Labels for Sugar

It's time to visit your kitchen once again with a critical eye. This time, you will be looking for items with a high sugar content. Keep in mind that if the product has fruit or milk in it, some of those sugars listed are the naturally occurring type. Nevertheless, you will be shocked at how high these numbers can get. Choose one product that really surprised you in terms of the sugar content. It may be that you didn't realize this item contained a lot of sugar at all, or that the number was much higher than you would have expected. Once you've selected your food, I'd like you to post it to the thread on the discussion board entitled "Carb Counts". You will need to include the brand name of the product, the serving size, and the number of grams listed for sugars. Once we've all had a chance to learn about carb counts from each other's discoveries, many of us may be making some substitutions and/or deletions to our usual diets!

Your posting is due by: 3/2/00

3-3: Sugars and Artificial Sweeteners

Is sugar bad for you? This question has stimulated many heated discussions since it is a subject near and dear to many hearts. After teaching this class for several years, I've noticed that most

teachers are familiar with many of the common beliefs linking sugar to everything from dental caries to hyperactivity. What does the scientific world have to say about it? By now you should have had a chance to read the summary presented in your textbook (Controversy 4). This was quite well done and provides you with a brief overview of the current research. However, I'd like you to dig a little deeper into the Internet to see what else is out there on this subject.

Assignment: The Great Sugar Debate (research and discussion)

You will be assigned a "buddy" and a subject for your Internet search project (for example, one topic is "Sugar and Behavior"). Working in pairs, your mission is to search the web for information related to your subject. The difficulty will be in weeding out the fiction from the facts. In your summary, I'd like you to comment on the following:

- Name the web sites where you found your information
- Do you trust what you read? Refer back to Module 1 for tips on evaluating web sites, and to your textbook for identifying nutrition quackery.
- Does the material match what your textbook says?
- If you think you've discovered nutrition quackery, describe the clues that led you to this conclusion.
- You should focus on presenting the relevant facts and citing any scientific research.

Your summary should not exceed 500 words. Your grade will count as a minor project.

Related Web Sites to get you started:

<http://www.sugar.org>

<http://ificinfo.health.org/review/swtfact.htm>

<http://www.caloriecontrol.org/lowcalqa.html>

<http://www.healthfinder.gov/searchoptions/topicsaz.htm>

<http://www.kidshealth.org>

<http://www.ncbi.nlm.nih.gov/PubMed/>

You will also be presenting your discoveries on the discussion board for your classmates to read. Limit your post to one paragraph and post under "The Great Sugar Debate".

**Your written summary (emailed to me) and posting to the discussion board are due by:
3/9/00**

3-4: Fabulous Fiber

Page 99 in your textbook reviews the current recommendations for the intake of fiber in the diet. You can see that it ranges from 25 grams up to 40 grams of dietary fiber per day, depending on the organization cited. Did you know that the average American gets only 10-15 grams of fiber in his or her diet? What do you think about your own diet? Do you think your total fiber falls within this range?

Assignment: Calculating Fiber

There are two methods you can use to calculate your typical fiber intake:

1. First, list all the foods you've had to eat in a particular day. You can use your food record from your Diet Analysis Project if you'd like.
2. Go to Figure 4-12 on page 122 (in your textbook). If you can't find the food you're looking for, try Appendix A located in the back of your book. Total up the grams of fiber for the day.
3. Now try a quicker, easier way. Go to Table 4-3 on p. 105 in your textbook. Follow instructions for quickly estimating fiber.

Now compare the two results. Are they similar? Can you think of ways to increase the amount of fiber in your food choices? Pay attention to the *type* of fiber: did you eat more insoluble sources, or more soluble sources? Depending on your health goal, you may want to focus on one more than the other.

Which method would you prefer to use in the classroom? What activities can you think of to help illustrate the concept of fiber? Feel free to post any ideas to the discussion board if you have a favorite activity.

You should answer the above questions in a concise paragraph and email to me by 3/2/00.

As most of us know, food is usually a big seller in the classroom. Why not bring in some healthy, high fiber snacks for the kids to try? A word of caution: taste them yourself first and make sure they will be enjoyed by a majority of the students. There's nothing worse than trying to promote healthy foods that don't taste good!

Classroom Activity Idea:

Go to: <http://www.nutritionforkids.com/emlnews/FK-June97.htm#kids> and view this activity for evaluating fiber and sugar content of cereals.

Current Location: Module 4 - Fat: The Good, the Bad, and the Ugly

4-1: Reading Assignment

Read Chapter 5: The Lipids: Fats, Oils, Phospholipids, and Sterols - pp. 133-174. On the Nutrition Interactive CD-ROM, go to Outline > Lipids, and Outline > Heart Disease. Review all sections. Then complete the rest of the readings and activities in this module.

ASSIGNMENTS IN THIS SECTION ARE EITHER DUE ON 3/16/00 OR 3/23/00. CHECK WITHIN EACH SECTION FOR ACTUAL DATES.

4-2: Lipids and Health

Chapter 5 in your textbook covers the relationship between lipids and health. To further investigate the subject of lipids and heart disease, please review the following articles on the American Heart Organization's web site: <http://www.americanheart.org>

- Take the interactive quiz called "What's Your Risk" (listed on the home page) to assess your own risk for developing heart disease.
- Under "Family Health", > Nutrition > review AHA Dietary Recommendations for Healthy Americans, AHA Dietary Recommendations for Children, and under Infants and Diet > review Cholesterol in Children.

Review the American Academy of Pediatrics statement on cholesterol in children:

<http://www.aap.org/policy/re9805.html>

Hydrogenated Fats:

Hydrogenated, or "trans" fat, has been a subject of current debate lately. To read some updates, please review the following web sites:

<http://vm.cfsan.fda.gov/~lrd/hhtfacid.html>

http://www.cspinet.org/nah/6_99/transfat3.html

While reading these articles, try to apply your conclusions to your own dietary practices. Include your comments in your diet analysis project summary.

Assignment: Calculating Your Personal Daily Value for Total Fat and Saturated Fat

Turn to page 163 in your textbook. You will be completing the Do it! Activity using Form 5-1, completing Sections 1 and 2, **with one exception**. Notice Step A asks you to find your energy/calorie recommendations. I'd like you to substitute a modification for this step. On page Z (last page in the book), find the chart called Body Mass Index. Locate your height on the left-hand column and read across for the weights associated with that figure. If your weight falls within the Healthy Weight category, then use your actual weight to plug into the equation that I'll give you. If your weight falls into the Overweight or Obese category, please **don't** use your actual weight or it will falsely overestimate your calorie needs. Instead, find the highest acceptable weight listed for your height (far-right column in the Healthy Weight category), and choose that figure for the calculation. Now you can proceed to the next step. Take your selected weight (in pounds) and multiply that number by 14. This will give you an approximate estimate of how many calories your

body needs each day. Take that figure and plug it into the blank titled "energy recommendation" in Step B. Continue completing all the steps for Sections 1 and 2 as instructed. Once you have calculated the recommended total and saturated fat limits for yourself, you should email the results to me, your instructor, for review. Don't worry – your personal information is kept confidential!

Please email your results to me by: 3/16/00

Classroom Activity Ideas:

There are a variety of strategies available for teaching students how to evaluate their diets based on fat content. Some of them are listed below for your review. One important point to keep in mind for any classroom discussion about fat: I recommend you emphasize to students that having some fat in the diet and on the body is actually a good thing, and that fat has many useful purposes. I mention this because children often take the "low fat" message too literally, and may try to totally eliminate fat from their diet after hearing this lesson. With eating disorders on the rise in this country, we need to be careful with the language we use and the way we present information on diet and nutrition.

If you would like a free downloadable copy of the fact sheet "Fat: One of Life's Essentials", go to <http://www.eatright.org/nfs/nfs90.html>. This handout from the American Dietetic Association will make a nice addition to any lesson on fat and lipids.

- One way to demonstrate fat in food is by using visual aids. You can use fat "tubes" or butter pats (real or fake). To make your own fat tubes, melt vegetables shortening and pour different teaspoon amounts into small test tubes. The fat will then solidify and will represent different amounts of fat to correspond with the foods of your choice. For example, a "Big Mac" may take up 2-3 test tubes while "skim milk" would be empty. You can also cut up square of butter or buy plastic ones from nutrition education companies such as Nasco Nutrition Teaching Aids at <http://www.eNASCO.com>. Also, check out this web site for more heart healthy teaching ideas: <http://www.healthyheartprogram.com>. Under "Products", you will find fat and sodium test tubes, heart healthy curricula and transparencies, and their "Heart Buddy" puppet for sale.
- To help students evaluate snack choices, have them bring in food labels from home, or start saving labels from their snacks/lunches in the weeks prior to the lesson. Make a chart on the board listing the snack food, the total fat, saturated fat, and percentage of calories from fat (calories from fat divided by total calories). Rate the snacks from highest to lowest in % fat.
- The Dairy Council produces a helpful teaching tool called Food Models. These are cardboard representations of food, with an illustration of the item on one side (colorful, realistic photos) and the **Nutrition Facts** on the back of the card. Choose about 10 students and give them each a card, instructing them not to look at the back of the card until the end of the activity. Ask the students to line themselves up based on what they estimate for fat contents of the foods (highest to lowest). After they have made their final decision, they can turn the cards over and see how accurate they were. This activity also works well using other nutrients, such as calcium or fiber.
- The following activity may be used in conjunction with a lesson on weight management. Bring in a pound of actual animal fat (donated from a local butcher) and place it in a zip-lock bag. Pass the bag around the classroom. The kids will enjoy squishing it and commenting on how "gross" it is. Initiate a discussion on excess fat in the body: how heavy it is to carry around, the negative effects on health and cholesterol levels, etc. One word of caution: be sensitive to any overweight children in the room or anyone you suspect is at risk for an eating disorder. You may decide to skip this activity if you think it will have a negative impact on your students.

If you have any other ideas you would like to share with your classmates, or have comments on the activities listed above, feel free to post them on the discussion board. You can always start a new thread yourself.

4-3: Fast Foods

Were you aware that 57% of all Americans eat meals away from home every day? Are you one of them? It should come as no surprise to hear that foods purchased outside the home supply more fat, saturated fat, and cholesterol and have less vitamins and minerals than meals you would prepare yourself. Many of you may already realize that the frequency with which you eat out is directly related to a rising cholesterol level and an expanding waistline. After reviewing the articles listed below, you may be motivated to change some of those habits.

The following readings are from the Center for Science in the Public Interest (CSPI): a nonprofit organization promoting healthier eating habits. This organization was dubbed "the food police" after publishing a series of articles about the hazards of fast food fare. Review the evaluations of typical selections at Chinese, Italian, and Mexican restaurants, as well as Boston Market, keeping in mind the portion sizes listed.

<http://www.cspinet.org/nah/chinese.html>

<http://www.cspinet.org/nah/ital.html>

<http://www.cspinet.org/nah/mexican.html>

<http://www.cspinet.org/nah/bostmark.htm>

This data has great "shock value" and can be used in conjunction with some of the classroom activity ideas mentioned in the Lipids and Health document. For example, make up fat tubes or butter pats representing some of the foods listed either in these web sites or the one below.

Discuss how these foods could be prepared more healthfully at home using different ingredients and/or cooking methods to reduce the fat, saturated fat, and sodium contents.

Assignment: Fast Foods

Now check out some of the listings for fast food restaurants and complete the following challenge: identify both the worst and the best meal choices. Found within the web site <http://www.olen.com> are several fast food restaurant listings. At the home page, click on "food finder". Choose a restaurant. To view all of the foods offered, simply leave the rest of the boxes blank. Then click on the button "fire up the deep fryer" for your comprehensive list. You will now be able to compare all the foods served at that restaurant by viewing the table.

Once you've selected what you think would be the least healthful, as well as the most healthful choice, post the names of the food items (along with the restaurant) to the discussion board. You can select from any restaurant. Try to choose a main entrée or meal rather than just a side order or condiment. Choose your own nutritional criteria with which to make your decision about the nutrient density of the food. For example, you might choose to rate foods based on their calorie and fat content, or you may want to make note of those highest or lowest in sodium. Just make sure it is clear in your posting why you considered these foods to be the best/worst choices. Notice this web site does not list saturated fat content. We can probably assume the numbers would be about half of the total fat for many of the items. Can you feel your arteries clogging just thinking about it?

Your posting is due to the discussion board by 3/16/00.

4-4: The Great Olestra Debate

The debate over Olestra, (brand name Olean), has been raging for almost a decade now. The FDA approved Olestra for use in snack foods in 1996, and the subject has become controversial ever since!

Assignment: The Olestra Debate

Your assignment for this topic is to research several points of view found on the web sites listed below. After you have completed all the readings, you will post your personal opinion on the subject to the discussion board. There is no right or wrong answer here, so don't be afraid to take a stand. I do ask that you try to keep an open mind as you are gathering "evidence" for your stance. Some of you may be familiar with the controversy and have formed an opinion already. Again, try to put aside your final decision until you've had a chance to read all of the arguments

presented, both pro and con. Please limit your comments on the discussion board to just a few sentences.

4. Textbook, pp. 153-155.
5. <http://www.olean.com>
6. <http://www.cspinet.org/nah/marolest.htm>
7. <http://www.cspinet.org/olestra/index.html> (select any readings of your choice – you don't have to read them all).
8. <http://www.eatright.org/adap0498.html>

Your posting is due to the discussion board by: 3/23/00

Current Location: Module 5 - Protein Power

5-1: Reading Assignments

Read Chapter 6 in your textbook: pp. 175-207.

CD-Rom > Outline > Proteins

ASSIGNMENTS IN THIS SECTION ARE DUE ON 3/30/00 and 4/6/00. CHECK WITHIN EACH SECTION FOR ACTUAL DATES.

5-2: Protein Requirements

Most Americans eat more than enough protein in their diets. You may have noticed that page 197 in your textbook points out the difference between the current Recommended Dietary Allowance (RDA) for protein and the average intake. The example cited was the RDA of 58 grams (for males aged 19-24) vs. 105 grams typical consumption. That's a pretty significant difference! What about an upper limit for protein? Some have suggested that that up to twice the RDA is an acceptable range for protein. Another way to describe protein requirements is by using percentage of calories. The World Health Organization suggests a lower limit of 10% of total calories from protein, and an upper limit of 15%. Lastly, you can use the formula: 0.8 grams protein/kg to calculate protein needs. Now it's your turn to practice using and comparing these different methods.

Assignment: Calculating Your Protein Requirement

9. First, look up your RDA for protein in the chart found on the inside front cover of your textbook (page B). Find your gender and age category and read across. Make note of this number as the lower end of the range. Now double the number to represent the upper limit.
10. Next, calculate the 10%-15% range for total calories from protein. Find the calorie level you used in Step B of the Lipids and Health Assignment: Determining your Personal DV for Total Fat and Saturated Fat (Module 4). Multiply your calorie level by .10, then divide that number by 4. This tells you the grams of protein that would supply 10% of your total calories. Now repeat the procedure using 15%: multiply calories by .15, then divide by 4. This is your upper limit for protein.
11. The last method is to use is the formula: 0.8 grams of protein/kg. First, find your desirable body weight. Use the same weight you chose for the Lipids and Health Assignment on calculating your personal fat/saturated fat DVs. Next, change your weight to kilograms by dividing by 2.2. Then multiply your weight in kg by 0.8. The result is the number of grams of protein you should eat per day as a minimum. The maximum acceptable level using this method is 2 g of protein/kg, and this is reserved for adult athletes (the professional variety!)

Now it's time to compare all three methods. Did you get similar answers for each one? When you have completed your Diet Analysis Project, you will have a chance to see how much protein you typically consume in comparison to your RDA (first method). You may

be surprised to notice how easy it is to meet the minimum amount of protein. Some of you may even be exceeding the upper limits. Keep this in mind as we discuss the problems associated with excess protein in the diet, especially in relation to some of the currently popular high protein diets (Module 7)

12. The last step of this assignment is to send me a brief email with your final calculations. It can be as simple as: Method 1: ___ to ___ grams, Method 2: ___ to ___ grams, Method 3: ___ grams. **It is due by 3/30/00.**

5-3: Vegetarianism

Controversy 6 (pp. 203-297) reviews aspects of vegetarian diets. It is important to understand both the advantages and disadvantages of such an eating style, whether planning an individual dietary change or teaching a lesson on this subject. Individuals choose vegetarianism for a variety of reasons, including a desire for a healthier diet, animal rights, or environmental concerns. We will focus on vegetarianism as it relates to achieving a nutritionally balanced diet. First, let's review some myths about vegetarianism.

Myth: Plant proteins are lower in quality than animal proteins.

Reality: Protein quality depends not only on the source but also on the dietary mixture of plant proteins. Some plant proteins may even be as high quality as animal proteins (i.e. soy), although the majority of plant proteins are considered "incomplete". Furthermore, most dietary meal combinations of proteins are complete (see Table 6-2 for examples of complementary protein meals).

Myth: Proteins from different plant foods must be carefully mixed and eaten together in the same meal.

Reality: In fact, research now shows that you do not need to combine the "complementary" amino acids at the same meal. Over the course of the day, the body will take the amino acids it needs to build complete proteins from the amino acid pool in the body.

Myth: Vegetarians don't get enough protein.

Reality: Even vegans, who consume no dairy or egg products, tend not to be deficient in protein. That's because the small number of grams of protein in grains and vegetables tend to add up, in addition to soy products and other non-meat protein sources consumed.

Myth: People cannot meet vitamin and mineral needs with a plant-based diet alone.

Reality: If designed properly, even a totally plant-based diet (= vegan diet) can meet 100% of dietary requirements. The five nutrients that present special concerns for vegans include iron, calcium, Vitamin D, Vitamin B12, and zinc.

Myth: Vegetarian diets are automatically more healthful than diets that include animal foods.

Reality: Although vegetarian diets tend to be lower in saturated fat and higher in fiber than non-vegetarian diets, individuals are not protected from the typical dietary pitfalls of getting too few nutrients along with excess calories. Without sufficient knowledge of nutrient needs, a vegetarian diet can lead to serious vitamin and mineral deficiencies.

Myth: Vegetarians eat weird foods.

Reality: "Weird" is in the eye of the beholder! Vegetarians do make use of some nontraditional foods such as soy-based products. However, many of these foods are quickly becoming part of mainstream food choices. In addition, new foods are more likely to seem "weird" at first, such as when we try a different culture's food for the first time. This may change over time if repeatedly exposed to any new food.

Classroom Activity Idea:

When teaching students about amino acids, it is helpful to use Lego toys to illustrate the concepts of incomplete, limiting, and complementary proteins. (See p9. 190-191 in your textbook for a review of these terms). Divide the legos into colors. Make one color representative of the 9 essential amino acids (i.e. white). Assign the students the job of "making proteins" with the Legos and give blueprint instructions. For example, to make the protein insulin: connect 3 blue, 5 white, and 1 green. Note how different shaped proteins are created even when using the same

"blueprints". Discuss how DNA acts as the "blueprint" for protein design. In each group's pile of assorted Legos, make sure that at least one color is in short supply (= the limiting amino acid). Students will find that "protein" production will stop when they run out of that color. Design rules about which proteins will be complementary: i.e. red complements blue, green complements yellow, and so on. Talk about how in order for it to be a complete protein, it must have all of the nine essential amino acids (= white Legos). Discuss what happens when one amino acid is out of sequence and doesn't function properly, such as in sickle cell anemia. As you can see, there is an endless list of possibilities for discussion using these toys as "props".

Assignment: Readings and Debate/Discussion

Our next discussion thread will be about the safety of vegetarian diets for children. Do you think children should be allowed to follow a vegetarian diet? For the sake of this argument, let's assume the child wants to follow a vegan diet for health purposes and comes to you for advice. As his or her teacher, what are some of the considerations (positive and/or negative) to think about? Can you use it as an opportunity to educate the classroom, and maybe even the child's family?

The purpose of this discussion is not to debate whether or not you personally agree with a vegetarian diet, but rather what issues do you think will come up in the classroom? Feel free to tell us about your professional experiences, if any, with this subject.

Before going to the discussion board to post your opinion, review the following readings to get more information and different points of view on the topic.

http://www.pcrm.org/health/Info_on_Veg_Diets/vegetarian_kids.html

<http://www.eatright.org/adap1197.html> and <http://www.eatright.org/nfs/nfs95.html>

<http://www.vrg.org/nutrition/teennutrition.htm>

<http://www.vrg.org/essay/lessonplan.htm> (free, downloadable lesson plan!)

<http://www.naturalland.com/wc/wc.dll?egw~showarchiv~305~VEGETARIANISM>

Your posting is due by: 4/6/00

Teaching Materials of Interest:

The American Dietetic Association offers single copies of their Nutrition Fact Sheet: Vegetarian Diets, as well as a brochure: Eating Well, the Vegetarian Way. To order your copies, visit their web site at <http://www.eatright.org> or call 1-800-366-1655 9-4 Central Time.

To order a laminated, color copy of the Vegetarian Food Pyramid, go to

<http://www.healthconnection.org>

> catalog > type in "vegetarian" at the search box > click on 21 x 28" lam. Poster to view pyramid on screen.

5-4: Protein Supplementation in Sports

We've probably all seen those cans of protein powder supplements when walking through a health food store or a fitness club that sells their own products. You can usually recognize the products by the picture on the front of the container: a guy with bulging biceps and the "perfect" body. Have you ever wondered if these products might be dangerous, especially for adolescent boys? Well, I have too! Protein supplementation is a popular practice among male athletes, particularly those involved in weight lifting. The motivation for taking them is built on the premise that extra protein will directly result in larger muscles. Let's review some myths and facts about this practice.

Myth: Eating a high protein diet will ensure larger muscles.

Reality: Protein does contribute to the production of lean muscle mass in the body. Individuals who are deficient in dietary protein will begin to break down their muscle tissue for a supply of protein to the body. However, an excess of protein greater than what the body requires will NOT turn into muscle. Instead, similar to an excess of calories from dietary fat or carbohydrate, the body will convert those extra protein calories into FAT!

The second part of correcting this myth has to do with the idea that protein will just automatically create a large muscle. Yes, you need the protein as the starting material to build muscle, but it won't magically happen without working that muscle through resistance training.

Myth: The more protein, the better.

Reality: As in the case of many aspects of nutrition, more is not necessarily better! There are inherent dangers in consuming too much protein (to be discussed further below).

Myth: The best way to increase protein intake is through supplements.

Reality: The manufacturers of these supplements would certainly like you to believe this! The truth is that an individual can increase his/her protein intake from food just as effectively as from supplements. The body will not know the difference (though the protein powders may be more convenient). In addition, remember how easy it is to meet protein requirements? An athlete is probably already be meeting his or her protein needs before ever taking a supplement.

Myth: Protein supplements are safe.

Reality: Generally, most of the protein powders are probably safe as long as the product contains a mixture of all the amino acids (i.e. whey, calcium caseinate or egg white-based protein). It is more dangerous to take a single amino acid supplement (usually found in pill/tablet form) because you risk upsetting the balance of amino acids in the body's pool. Besides the disadvantage of the expense of these products, can you think of any other concerns? Your textbook reviews some of the dangers of excess dietary protein on the body (see page 197). In addition, you are assigned more readings to add to your knowledge base on this subject.

Assignment: Readings

<http://www.eatright.org/afitperform.html> (Scroll down to the section titled "protein" – you don't need to read the whole document unless you're really interested)

http://www.outreach.missouri.edu/extensioninfo/line/nutrition/protein_supplements.html

<http://www.psu.edu/ur/NEWS/HealthMed/sportsnewsletter.html>

<http://www.pathfinder.com/drweil/database/display/0,1412,98,00.html>

<http://www.dietsite.com/sportsnutrition/index.htm> > Scroll down to section on protein

<http://www.dietitian.com/protein.html>

Now let's look at the ingredients and claims made for some of these products. Go to

<http://www.chathamhealth.com/accord/proteinpowders.html>

I found this web site while doing a search for "protein supplements". Click on a few of the products to get an idea of the ingredients and what the manufacturer promises. (Note the price, as well!)

It may be just as effective, cheaper, and more nutritious for an athlete to make his or her own protein drinks. Something as simple as nonfat dried skim milk powder or Instant Breakfast mixed with milk can provide similar results will much less of a cost. See this web site for excellent recipe ideas for high protein blender drinks: <http://www.dietsite.com> > click on "High Protein & Calorie Recipes".

The Gatorade Sports Science Institute (<http://www.gssiweb.com>) is an excellent web site to use for researching sports nutrition questions. (We won't do much more on sports nutrition for this course, but it is covered in greater detail in our next level nutrition course: Contemporary Nutrition Issues for the Classroom.) I highly recommend you join GSSI as a member (free) and review some excellent articles that are based on sound scientific research. The URLs for these articles are listed below (but join as a member at the home page listed above before trying the links to these pages):

<http://www.gssiweb.com/references/s0000000200000015/s0000000200000016/d0000000200000197.html> (Written by Priscilla M. Clarkson, PhD of Umass Amherst: "Nutritional Supplements for Weight Gain")

<http://www.gssiweb.com/references/s0000000200000015/s0000000200000017/d00000002000002ac.html> (Roundtable discussion with sports nutrition experts: "Muscle Builder" Supplements)

Current Location: Module 6 - Supporting Roles: Vitamins and Minerals

6-1: Reading Assignment

Read Chapters 7 and 8 in your textbook (pp. 209-311).

6-2: Vitamin and Mineral Review

Chapters 7 and 8 in your textbook cover quite a bit of information, don't they? Although often fascinating, it can be a lot to absorb all at once. It's sometimes overwhelming for students to learn about all of these vitamins and minerals in just a few lessons. Here are some ideas for teaching students about the micronutrients:

Classroom Activity Ideas:

- Student participation is key for this subject! Assign each student a vitamin or mineral and have them share the following information with the class: name of nutrient, function in the body, signs of deficiency, risks/signs of toxicity, and food source. Make a chart on the board with columns labeled as above; have students fill in the chart with their information.
- Another variation on learning the characteristics of the nutrients is by using a collaborative effort. Allow students to leave their textbooks open. Start by asking a student to name a nutrient, then have the next student name the function, then the next student reviews deficiency signs, and so on. Go around the room until all of the nutrients have been reviewed.
- **Flash cards:** Have each student make 4 color-coded index cards for his or her assigned vitamin/mineral: yellow for function, orange for deficiency signs, red for toxicity, and green for food sources. A white card should have the name of the vitamin or mineral on it. Instruct them to write the name of their nutrient on the back of each card. Then mix up all the cards and pass out a random handful to each student. Their job is to create the chart (mentioned in the first activity) on the floor or a large table. On the left-hand column, first list the white nutrient cards. Then have the students try to match up their cards with each nutrient. They can then turn the cards over to see if they matched correctly. This activity promotes interaction among students and is a great way to help students study for a test.
- **Twenty Questions:** Place a card on the back of each student naming a vitamin or mineral. Do not allow the student to see the card. Each student's job is to circulate among the classroom asking classmates up to 20 questions as he or she tries to guess their nutrient. Instruct them to ask only "yes" or "no" questions (i.e. "Am I a water-soluble vitamin?") The first person to guess his or her nutrient wins!
- **Interactive Quiz:** This can be a great homework assignment for review, or it can be used as an opening activity to evaluate baseline knowledge level. Either find a good written quiz to give students or assign an interactive online version such as http://www.cspinet.org/nah/9_99/vitamin_abc.htm. You should take the quiz yourself!
- **Do It Activities:** The Do It activities for Chapters 7 and 8 in your textbook are wonderful ways to apply the above information to food choices in real life. (See pages 252-254, and 300-302). Follow instructions for the activities and have students answer the analysis questions together in class or as a homework assignment.
- **Dissolution Testing:** If possible, have students bring in their own vitamin supplements. Line up clear plastic glasses half full with water and add a few tablespoons of vinegar. Add one tablet from each sample product and swirl the tablet in the fluid. See if it has dissolved after about 15-20 minutes. Discuss the implications of whether this would dissolve with stomach acid. You can follow up this activity by checking www.consumerlab.com for the vitamin's official rating.
- **Calcium Lessons:** Many teachers like to do lessons on calcium either as part of a lesson on vitamins and minerals in general, or as part of a unit on health issues, such as osteoporosis. In either event, be sure to check your local dairy council for classroom activity ideas and educational materials. The Stalker Institute also has many resources on this topic.

Assignment: Vitamin/Mineral Research

You will each be assigned a vitamin or mineral (sound familiar?) Your job is to research your nutrient through the Internet, looking for recent scientific studies. This may be easier for some nutrients as opposed to others. If you can't find something necessarily "new" or a valid scientific study, try to find an interesting fact that was not presented in your textbook. Post the information you find to the discussion thread "Vitamin/Mineral Research". Please limit your posting to about 5 sentences.

Your posting is due by: 4/13/00

You can use these web sites to begin your search, but feel free to do a general Internet search as well:

<http://www.nutrition.org/nutinfo>

<http://bookman.com.au/vitamins>

<http://www.ncbi.nlm.nih.gov/PubMed/>

<http://odp.od.nih.gov/ods>

<http://www.eatright.org>

<http://vm.cfsan.fda.gov>

<http://www.who.int/home/search>

You might also want to look at reputable nutrition newsletters such Nutrition Action or Environmental Nutrition, because they usually provide the reference to the scientific journal.

6-3: Multivitamin/Mineral Supplements

If you've ever tried to purchase a multivitamin supplement, you know what a confusing process this is. There are so many to choose from, how is a person to know which is the best one? Listed below are some background information and readings about supplements, as well as some guidelines you can use to evaluate products. This document will end with an assignment for you to evaluate your own vitamin supplement.

TO SUPPLEMENT OR NOT TO SUPPLEMENT?

The first question to consider is who needs supplements?

<http://www.eatright.org/nfs/nfs81.html> This page on the American Dietetic Association web site provides a free downloadable, reproducible fact sheet: "Do You Need a Multivitamin/Mineral Supplement?" Review it to see if you would fall into any of these categories. Then consider the additional information listed below.

Food first, then supplements:

"Let food be your medicine and medicine be your food" - Hippocrates

Review: <http://nutrition.about.com/health/nutrition/library/weekly/aa080398.htm>

What are the benefits of nutrients obtained from food (as opposed to supplements)?

- Very little risk of toxicity with food
- Better bioavailability/absorption, less risk of competing absorption
- Less expensive
- Can get many nutrients from one food
- Vitamins/minerals may only deliver benefits in the context of foods they are packaged in
- Foods contain fiber and phytochemicals, which you can't get in a pill

However: There are some situations that warrant supplementation in addition to a healthy diet! Consider the following . . .

Reasons for taking a multivitamin (one that includes 100% of the DV for the following nutrients):

- *Folate* (400 mcg for prevention of birth defects, protection against heart disease)
- *Vitamin D* (for bone health; study shows many people are deficient)
- *Iron* (for menstruating women)
- *Zinc* (a mineral which is often deficient in diets)
- *Vitamin B6, B12* (may be useful in protection against heart disease)
- *Beta-carotene* (an antioxidant which may protect against cancer and heart disease).

Research shows **diets** high in carotenoids are associated with a lower incidence of cardiovascular disease and cancer. The debate of taking a separate supplement of beta

carotene is controversial at this time. I usually recommend no more than 6 mg from a pill; instead, load up on carotene-rich fruits and vegetables.

The following components of multivitamin preparations are generally not needed and there is little advantage to taking them: potassium, biotin, pantothenic acid, boron, iodine, molybdenum, manganese, chloride, nickel, tin, silicon, vanadium, inositol, carnitine, choline). Moreover, their presence generally raises the price of the supplement.

GENERAL CONSIDERATIONS

- "Natural" does not necessarily mean safe
- Ignore marketing claims: "chelated", "stress formula", "timed-release", "organic"
- Naturally occurring substances cannot be patented, so no incentive for research
- Supplements are not regulated by the government (FDA)
- no quality control for safety standards; could be contaminated
- potency varies (herbs)
- manufacturers can make claims that are not based on science
- recommended dosages on the label may be unnecessary and even unsafe; dosages may need to be individualized
- Dietary Supplement and Health Education Act of 1994
- herbs and supplements generally considered safe unless FDA proves otherwise; treated like food rather than as drugs or medicines
 - allows certain types of claims on supplement labels
 - Generic brands often just as good as brand names
 - Look for USP symbols. This is a rating from the US Pharmacopeia. It reviews the quality, purity, potency, and dissolution of a supplement. You can also go to <http://www.consumerlab.com> to see if your supplement was rated favorably in terms of the quality and honesty in its labeling.
 - Supplements often contain unfamiliar (and unnecessary) ingredients. Visit the quackwatch web site for more information: <http://www.quackwatch.com/01QuackeryRelatedTopics/DSH/supps herbs.html>

Caution when considering multivitamins:

- Vitamins are not a cure for a poor diet (not the "magic bullet")
- View them as *supplements*, not substitutes. Only replace what may be lacking from your regular, healthy diet
- Vitamins/herb supplements do not supply phytochemicals and fiber in foods
- More is not necessarily better. Don't take more than 150% of the DV for any nutrient
- Vitamins will not give you energy
- Vitamins will not necessarily cure or prevent diseases
- Check expiration dates
- Store away from humidity and light
- Generally best to take with food
- Don't take iron and calcium at the same time
- Discuss the potential use of any over-the-counter supplements and herbs with your doctor.

When you might need more than a multivitamin:

Calcium and Vitamin D

- Important nutrients in bone health; may be difficult to achieve recommended levels of each through diet. Calcium levels in multivitamins are often inadequate and diets are often lacking. Many people in northern geographic regions may be deficient in Vitamin D. Elderly people who do not drink milk and do not get enough sunlight exposure will probably need supplements of both.

Vitamin C

- An antioxidant; easy to get the RDA from diet but research shows levels closer to 200–500 mg may be helpful in cancer and heart disease prevention, as well as reduced risk of cataracts. Extremely large amounts (about 2,000 mg/day) may reduce the severity and

duration of a cold's symptoms, slightly, but this amount also increases the risk of getting diarrhea and kidney stones in susceptible people.

Vitamin E

- An antioxidant which may help slow progression of heart disease and decrease incidence of prostate cancer. Most multivitamins (and diets) supply only 15-30 IU. Large amounts may increase the risk of hemorrhagic stroke for individuals with high blood pressure.

Selenium

- An antioxidant mineral which may be lacking in some diets. One study in 1996 found that 200 mcg a day cut the risk of colon, prostate, and lung cancer by half.

Vitamin B12

- Elderly people with atrophic gastritis cannot absorb Vitamin B12 in food but can absorb crystalline B12 in supplements or fortified foods (such as cereal).

Iron

- Usually taken in the form of supplements during conditions such as iron-deficiency anemia, when it is difficult to rectify condition with diet alone.

These readings provide some guidance in choosing a multivitamin supplement:

<http://berkeleywellness.com/supplements/dsSupMultivitamins.html>

http://www.cspinet.org/nah/4_00/pickamulti.htm

Assignment: Evaluating Vitamin Supplements

You will need to find a vitamin supplement label to review for this assignment. It is probably best if you choose a multivitamin/mineral supplement rather than a single nutrient supplement (i.e. Vitamin C). Use the information above when evaluating your supplement, then send me an email with your written responses to these questions:

13. What is the name of the supplement?
14. What is the cost per pill?
15. Is the supplement complete? (In other words, does it contain all vitamins and minerals with established RDIs)? If no, what is missing?
16. Are most vitamins and minerals present at or near 100% DV? Exceptions include biotin, calcium, magnesium, and phosphorus. List any vitamins or minerals that are present in low amounts of dangerously high amounts.
17. Does the supplement contain unnecessary nutrients or nonnutrients? If yes, list them.
18. Is there "hype" on the label? Does the label use the terms "natural", "organic", "chelated", "stress reliever", etc.? List any terms used.
19. Is this a supplement you would feel comfortable taking for yourself?

Your email is due to me by: 4/13/00

Current Location: Module 7 - Weighty Matters: When Too Much or Too Little is a Problem

7-1: Reading Assignment

Read Chapter 9 in your textbook: pp. 313-354, and Controversy 10 on Eating Disorders, pp. 384-390.

CD-ROM > Outline > Weight Management

CD-ROM > Outline > Eating Disorders

SOME ASSIGNMENTS IN THIS MODULE ARE DUE 4/20/00, WHILE OTHERS ARE DUE 4/27/00.

7-2: Fad Diets

Dieting is a billion dollar industry in this country. Why do you think Americans continue to spend their money on the latest gimmick or fad diet promising the magical solution to their obesity

problem? If you go to your local bookstore, you will notice a huge section devoted to the latest in fad diets. Have you ever wondered how accurate these publications are? Remember our first lesson in this course on identifying Nutrition Quackery, and use this information as you evaluate some of the claims made by the authors. Check the credentials of the author. It never fails to surprise me how many individuals will publish diet books with absolutely no credentials – and the public continues to buy them!

A humorous website related to this topic is <http://www.faddiets.com>. Be sure to check out the sections "Make Your Own Fad Diet" and "Cheaters Tips" for a good laugh.

Assignment: Evaluating Fad Diets

You will have an opportunity to investigate one of the current fad diets available on the market today. I will be assigning you one diet in particular, but if you have a specific one in mind please let me know and I will arrange this. Once you've had a chance to review your assigned/chosen diet, you will be asked to report your findings to your classmates using the discussion board.

Please limit your posting to approximately 5-10 sentences. **Your posting is due by: 4/20/00.**

You do not need to go out and purchase the diet book assigned to you, although you may want to check your local library for a copy. As an alternative, you can also go to your local bookstore just to browse through your book and get a feel for what is presented. You should be able to find most of the information you need on the Internet. Many nonprofit (and unbiased!) web sites have published reviews of current diets and programs, and some of these are listed below. The author(s) or organization may even have their own web site; just remember that motive will influence the presentation of information. Review these sites skeptically!

First, I'd like everyone to go to <http://www.wheatfoods.org/strs> and read a few articles on fad diets in general. Please click on "Twists and Turns of Fad Diets", "Set the Record Straight", "Fad Diets: A Three Ring Circus", and "A Look at Nutrition Confusion" (note the downloadable power point presentation).

.Next, read "How They Compare" to begin your search of information on your particular diet. You should also check these web sites:

<http://nutrition.about.com/health/nutrition/msub4.htm>

<http://www.aicr.org/faddiets.htm>

<http://www.bosbbb.org/lit/0147.htm>

http://www.cyberdiet.com/modules/wl/be_informed_dieting.html

<http://www.thedietchannel.com/weight.hrm#FadDiets>

http://www.cspinet.org/nah/5_00/diet.htm

Caution: This next web site does not offer an unbiased review, but simply provides links to various diets' promotional web sites.

<http://weightloss.about.com/health/weightloss/mbody.htm>

7-3: Weight Management Programs

Now that you've had a chance to learn about some of the less credible diet books on the market, let's end this discussion on a more positive note and talk about where we *can* go to get good advice on weight management. First, we'll start with some excellent web-based summaries, in addition to what you read in your textbook. **Review** the following articles:

<http://www.cfsan.fda.gov/~dms/wgtloss.html>

<http://www.thedietchannel.com/weightloss.htm>

http://www.mayohealth.org/mayo/9903/htm/weig_sb4.htm

<http://www.eatright.org/nfs/nfs65.html>

Classroom Activity Idea:

See Table 9-6 (page 337 in your textbook) for an activity you can use in your classroom. This activity provides an opportunity to initiate an interactive discussion on weight-loss schemes. (This would be most appropriate for the high school level). Divide the students into groups of 2 or 3, and have them evaluate various diets and/or weight loss programs based on the questions listed in Table 9-6.

Assignment: Evaluating Weight Management Programs

You will be allowed to choose your own weight management program for this activity. Based on the readings below, you will be asked to evaluate your chosen program to see if it contains the suggested characteristics mentioned in the articles. If you'd like, you can also measure your program against the criteria listed in Table 9-6 (but this is not required since some programs wouldn't apply to these questions).

<http://www.niddk.nih.gov/health/nutrit/pubs/choose.htm>

<http://www.wellweb.com/nutri/wtlosspr.htm>

http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/wtl_prog.htm

<http://www.healthyweight.net/evaluate.htm>

The program you select can either be a reputable one or one that makes you suspicious! Choose one that interests you personally. You may even want to review web-based weight management programs. Here are some ideas for programs if you can't think of any on your own: (Choose one) Weight Watchers 1,2,3 (<http://weight-watchers.com>)

Jenny Craig (<http://www.jennycraig.com>)

TOPS (<http://www.tops.org>)

Nutri/System (<http://www.nutrisystem.com>)

Overeaters Anonymous (<http://www.overeatersanonymous.org>)

Metabolife (<http://www.metabolife.com>)

<http://www.asimba.com>

<http://www.cyberdiet.com>

<http://www.dietwatch.com>

<http://www.ediets.com>

<http://www.efit.com>

<http://www.shapeup.org>

<http://www.nutrio.com>

Once you've chosen your program and completed your readings, you will then email to me your responses to the questions listed below (please limit to one page, only):

1. Describe the food program promoted by the organization. Is the program flexible enough to allow people with different health conditions and lifestyles to use it successfully? Is it adaptable and easy to follow? Does it provide variety? Does the program provide for weight maintenance after goal weight is achieved?
2. Does the program require substantial registration fees, mandatory purchase of various items or foods, attendance at a minimum number of meetings?
3. Who designs the diet plan? Is there any involvement from a nutrition professional? If so, what are his or her credentials? Does the program include an exercise component?
4. Is member-to-member support available? For example, support group meetings, chat rooms, etc.
5. Based on what you now know about safe and effective means to lose weight, do you think this program will offer a sound plan? What kinds of weight loss claims does the program make?
6. Are there any "anecdotal" stories or case histories describing weight loss "success stories"? Do they sound authentic? Do they sound as though the person's weight loss was achieved sensibly? Do they present facts? Do they promise quick and easy solutions ("magic bullets")?
7. Describe your overall impressions of the program, listing positive and negative attributes.

Would you consider joining this program yourself?

This assignment should be sent to me by: 4/20/00

7-4: Childhood Obesity

Childhood obesity, a serious public health problem, is growing at an epidemic rate: prevalence has more than doubled in the past 10 years. In fact, the United States has the fastest growing rate of childhood obesity among industrialized countries. Current statistics from the federal government estimate that every one in four American kids is overweight. This corresponds to approximately 4.7 million, or 11% of children. About 60% of overweight children between 5 and 10 years old have developed one or more risk factors associated with serious chronic diseases.

How to Evaluate Obesity in Children

Physicians use the body mass index, which we have reviewed in previous modules. Recently, the Centers for Disease Control (CDC) released "pediatric growth charts" which categorize a child's BMI at different ages as normal, overweight, or heavily overweight. These charts can be accessed at <http://www.CDC.gov/nchs>

Parents concerned about their child's weight should consult with their pediatrician.

Assigned Readings:

Review the following readings to get a broader understanding of the current childhood obesity epidemic:

<http://www.familydoctor.org/handouts/343.html>

<http://www.familydoctor.org/handouts/344.html>

<http://www.aap.org/advocacy/archives/septscyo.htm>

<http://www.aafp.org/afp/990215ap/861.html>

<http://www.nutritionforkids.com/emlnews/FK-MayJune98.htm#CON>

<http://www.nutritionforkids.com/emlnews/FK-NovDec98.htm#FAT>

<http://www.niddk.nih.gov/health/nutrit/pubs/helpchld.htm>

You should also review some of the presentations from the symposium "Childhood Obesity: Causes & Prevention". Many prestigious experts in the field of obesity gathered at this conference to present the latest findings opinion on this subject. You will need the Adobe Acrobat Reader to view the document. Go to <http://www.usda.gov/cnpp/obesity.htm>. Click on "The Complete Proceedings of the Symposium". When you get to the document, hit Page Down until you get to the section of interest. It is a very long document, and I have summarized many of the main points below. However, I highly recommend you at least read the presentations by Leann Birch, PhD from Penn State (pp.33-41), and Connie Evers, RD (pp. 90-96).

Main Points from the presentations:

- There is a higher risk among African American and Hispanic populations
- Girls seem to be affected more than boys
- Early maturation occurs with obesity
- With the increase in childhood obesity, we are seeing an earlier appearance of traditional "adulthood" diseases such as Type 2 Diabetes, hypertension, and hyperlipidemia
- Visceral fat (=intra-abdominal fat) has worse health consequences than subcutaneous ("pinch-an-inch") fat
- The likelihood that childhood obesity will persist into adulthood is 70% by 10-13 years of age.
- Genetics increases the tendency toward obesity, but environment determines if a person actually becomes obese.
- 67% of US children watch > 2 hours of TV/day
- 20% of US children do not get more than 2 hours of vigorous physical activity each day
- 1/3 of American children get > 40% of total calories from food obtained outside the home

<http://www.usda.gov/cnpp/WP%20Obesity%20Article.htm>

(This is a newspaper article summary of the symposium - presented in a less technical format for easy reading!)

Assignment: Childhood Obesity

This is a written assignment that you will email to me. You will be answering a series of questions based on the readings above. You should be able to find a variety of ways to answer each question. Don't worry - you don't have to include EVERYTHING you might have read. Just try to answer each questions accurately and concisely. **This assignment should be sent to me by: 4/27/00.**

1. What were some of the reasons cited for childhood obesity? List 3.
2. What were some of the dietary recommendations for treatment? List 3.
3. What were some suggestions regarding physical activity? List 2.
4. Identify 3 components of a successful weight loss program for children.
5. What are some tips to give parents who are concerned about their child's weight problem?

7-5: Body Image and Eating Disorders

Many people in our society are obsessed with weight, and our nation's children are no exception. Harmful weight loss practices have been reported among girls as young as 9 years old. Eating disorders may affect 10-15% of adolescent girls. Studies have indicated that as many as 70% of high school girls are unhappy with their bodies and want to lose weight. Even among female adolescents of normal weight, as many as 83% want to lose weight. Sources of information about weight control and dieting tend to be the mass media, family members, and athletic coaches. Teachers and the school nurse are not consulted as often.

One of the purposes of this section of the course is to familiarize you with the available resources for eating disorders. It is well beyond the scope of the course to deal with this complex problem, although we do address it further in our advanced course, Contemporary Nutrition Issues in the Classroom. Our goal here will be to review some of the existing resources related to eating disorders and body image, and to begin thinking about the issue of body image as it relates to your particular classroom.

Let's start by viewing some web sites where you can quickly find information and educational materials.

Assignment: Web Site Review of Eating Disorders and Body Image

- The **Massachusetts Eating Disorders Association (MEDA)** provides a wealth of information. Go to <http://www.medainc.org/teen.htm> to see resources for teens such as: "Why Diets Don't Work", "How to Help a Friend - ACT NOW", "If You Think You Have a Problem", "30 Ways to Love Your Body", and "The Dangers of Exercising". These are free, downloadable handouts you can use. Also, there is a section for Educators: <http://www.medainc.org/educators.htm> that has tips for teachers and coaches when they suspect a student may have an eating disorder.
- The **Eating Disorders Awareness and Prevention (EDAP)** web site is also an excellent resource for information, links and low cost materials. Visit them at <http://www.edap.org> and view descriptions for the following programs (listed on the home page): Go Girls! Program for high school girls, Healthy Body Image elementary curriculum (HIGHLY RECOMMENDED!), Elementary School Puppet Program, and the EDAP Educational Materials and information section (includes order form).
- <http://www.gurze.com> is devoted exclusively to information and resources (books, videos, curricula, etc.) on eating disorders and body image. Visit their site or call them at 1-800-756-7533 to receive a free catalog. Be aware that some of their available curricula are not listed on the web site.
- <http://www.hedc.org> is the **Harvard University Eating Disorders Center** web site. They, too, have a tremendous amount of information to offer.
- <http://www.ellynsatter.com> This web site promotes resources for professionals and the public on feeding and eating. Ellyn Satter, a registered dietitian and social worker, is a leading expert in family feeding relationships. At the home page, choose > You and Your Eating > and read both "Distorted Eating Vs. Eating Disorders" and "What is Normal Eating?" for her unique perspective on eating disorders.
- <http://www.hugs.com> This web site is run by a registered dietitian whose mission is described as: "spreading the non-diet message to health professionals and the lay public". A visit to her web site is useful to understand the philosophy of the non-dieting movement. I recommend you read the description of her program for teens, which includes a facilitator manual, props, a copy of her book, teen cookbook, teen journal, and parent guide: Home Page > Teen Program > Facilitator Tour (review all sections). In addition, under Concept Background > review "Teens & Diets: No Weigh Article". Be sure to read the interesting [classroom activity idea](#) at the end of this article: Throwing Out the Dieting Myths.
- <http://www.foodplay.com> FOODPLAY Productions is an award-winning nutrition and health theater and video company producing school theater shows, video kits, media campaigns, and educational resources to improve children's health. In particular, the "This is Your Life" video for middle and high school comes highly recommended by

nutritionists in the field. You can reach the company at their website or by calling 1-800-366-3752.

- Don't forget to check the Stalker Library for a variety of resources on eating disorders and body image. <http://www.johnstalkerinstitute.org>

Feeling attractive is an essential part of self-worth. Children can experience tremendous pressure regarding their appearance, and they quickly learn that people often judge others by how they look. Here are some ideas for creating a forum for discussion in the classroom on this controversial topic.

Classroom Activity Ideas:

- Have students bring in advertisements from teenage magazines. As a group, discuss the models featured in the magazine. Ask the students to study the models' body shapes and sizes: do they think this is realistic? Do they know anyone personally who looks like this? This is a great time to remind students that photos in these magazines are often air-brushed, and that models have a team of people devoted to making them look good! In addition, discuss how excessive exercise and restrictive eating is often necessary to maintain that body size. Ask students if this would be healthy or even realistic for a growing teen. You may also want to mention that most female models today would be diagnosed as being clinically underweight by BMI standards. You can also bring in magazines for larger women such as *Big and Beautiful* to show larger size models. Contrast today's models with women from previous decades, such as Marilyn Monroe, Twiggy, etc. Discuss how society's ideal body shape for women has changed over the years. (Fifty years ago, Miss America had a BMI of 22 - correlating to a height of 5'5" and a weight of 135 lbs. -and by the 1980's had decreased to 17, the official definition for undernourishment). Also, don't forget the males in your classroom – they often have body image issues, too. Males have their own unrealistic standards to live up to! The publications they read often depict male models with bulging muscles and apparently not an ounce of fat anywhere. At the earlier stages of puberty, adolescent males may wish to be taller and larger, and they may resort to steroid use and body building in an effort to achieve the masculine ideal seen in "muscle" magazines. They, too, could benefit from a discussion about the messages being sent by the media, and how realistic it would be to actually achieve these ideals.
- Choose 4 girls from the class and hand them each a piece of produce (either a stalk of celery or a pear). Challenge the girls holding the pear to make it look like a piece of celery. After observing their confusion for awhile, ask the girls holding the celery the same question: how can they make it look like a pear. After a few minutes, explain that some people are shaped like celery, while others are shaped like pears – and no matter what you do, you will always retain your particular body shape. This can lead to a discussion on body image and how powerful the pressure can be to look a certain way in our society.
- The following lesson is from Kathy Krater's curriculum *Healthy Body Image: Teaching Kids to Eat and Love Their Bodies Too!* (Seattle, WA: Eating Disorders Awareness and Prevention (EDAP); 1998). **The "Air" Diet: Teaching the Counterproductive Effects of "Dieting" for Weight Loss.** Students are introduced to the five basic needs for life: food, water, air, sleep, and warmth. The teachers then says: "I wonder what would happen if we went on an 'air diet'? I think you all have been breathing entirely too much, and your cheeks are just too richly colored or rosy. You know, the latest style is to have a kind of gray or blue tone to the skin, and oxygen is what gives our cheeks that rosy glow. I think you all would be better looking if you cut back on your oxygen so your face coloring would be drab. Of course, you will need some air to live. But surely you could cut back. Won't it be worth it to have the 'right look'?" Kids will then be instructed to breathe through a straw with noses plugged until the predictable consequences are apparent. When "cheating" occurs, the teacher chides them for "not having enough willpower". When the children are allowed to "go off" their "diet," they inevitably (and dramatically, as only kids can) "gulp" big mouthfuls of air. This primes them for a meaningful discussion of why dieting for weight loss is not effective: obsession with and compulsive 'bingeing' on food (along with regained weight) are universal predictable outcomes.

- Have students role-play situations involving peer pressure and body image, such as being teased for being too thin or too heavy. Discuss how they can resolve the situation.
- Have students create a collage of pictures depicting people of all shapes and sizes. Specify that they must look for both healthy and not-so-healthy subjects (i.e. homeless persons, undernourished persons from other countries, etc.) Compare and contrast the images with the cover of magazines aimed at teens.

Assignment: Discussion on Body Image and Eating Disorders

Now I would like to hear from all of you regarding this often emotional and controversial subject. Please post a comment to the discussion board on your particular experience with eating disorders and/or body image in the classroom. (If you haven't had a professional encounter, a personal one is fine, too). I would also like to see you reflect on some of the information presented in the readings above. Some ideas to get the ball rolling: How do you feel about teaching this material in the classroom? What age do you think is appropriate to begin these discussions? What are some of the concerns of the parents? How can you include other educators in your school when doing a lesson on eating disorders and/or body image? Please limit your post to 1 paragraph. I'd like you to make one original post and respond to one other comment you read from a classmate. **Postings are due to the discussion board by 4/27/00.**

Current Location: Module 8 - A Healthy Start: Nutrition During Pregnancy and Infancy

8-1: Reading Assignment

Chapter 12 in textbook: pp. 431-462.

CD-ROM > Outline > Mother and Infant

YOUR ASSIGNMENT IN THIS MODULE IS DUE ON 5/4/00.

8-2: Pregnancy, Infant Feeding

The first time I taught this course, I thought the section on pregnancy and infant feeding would not be as relevant to the classroom as other topics we've covered. Naïve? Perhaps. Unfortunately, teenage pregnancy is becoming all too common these days. Did you know that the United States has the highest teen pregnancy rate among all Western industrialized countries, at a cost of about 7 billion dollars a year? Several teachers in my previous courses have been involved with school programs for pregnant teens, so they welcomed any material they could share with their students. Here are some resources for you to **review**:

Helpful Web Sites/Resources on Adolescent Pregnancy

- Check your textbook (page 462) for a listing of web sites on maternal and child health.
- <http://www.johnstalkerinstitute.org> Remember to check the library listings. They have several videos, texts, and a few curricula on the subjects of pregnancy and adolescent pregnancy.
- <http://www.aap.org/policy/re9828.html> Read this article from the American Academy of Pediatrics for some eye-opening information: Policy Statement on Adolescent Pregnancy
- http://www.fda.gov/fdac/features/996_bd.html Article describes how to decrease the chances of birth defects. Read the section on diet.
- http://www.modimes.org/HealthLibrary2/factsheets/Teenage_Pregnancy_Fact_Sheet.htm March of Dimes Fact Sheet on teenage pregnancy: \$5 for a pack of 50. (Also, check the March of Dimes product catalog for videos on teenage pregnancy, fetal alcohol syndrome, etc.: <http://www.modimes.org>).
- <http://www.healthedco.com> This company has a huge selection of health education resources: videos, poster, brochures, teaching tools, etc. Subject materials include

nutrition, childbirth, and sex education, in addition to drugs, tobacco, and others. Be sure to get their full catalog since their web site is limited in its offerings. You can order the catalog from the web site or call 1-800-299-3366.

- <http://aspe.os.dhhs.gov/hsp/teenp/intro.htm> Article from the Dept. of Health and Human Services: "A National Strategy to Prevent Teen Pregnancy".
- <http://parentingteens.about.com/parenting/parentingteens/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.teenpregnancy.org%2Ffactstats.htm> Listing of links and statistics related to teen pregnancy.

Helpful Web Sites/Resources for Breastfeeding and Infant Feeding

- <http://www.ars.usda.gov/is/AR/archive/mar98/diet0398.htm> Government web site article (US Dept. of Agriculture) on adolescent pregnancy and lactation.
- <http://www.aap.org/advocacy/bf/aapbrres.htm> American Academy of Pediatrics: listing of policy statements, press releases, and publications on breastfeeding.
- <http://www.lalecheleague.org/FAQ/diet.html> La Leche League fact sheet on the hazards of dieting during lactation.
- <http://www.lalecheleague.org/FAQ/lowcarb.html> La Leche League fact sheet on the hazards of a low carbohydrate diet during lactation.
- <http://www.mchb.hrsa.gov/html/links.html> List of maternal and child health links.
- <http://www.lalecheleague.org/FAQ/FAQsolids.html> La Leche League fact sheet on starting solids for infant feedings.
- <http://www.tinytummies.com/column.html#solid> Registered dietitian's site for food and nutrition advice for families. This link is for an article on starting solids for infants.
- <http://www.ellynsatter.com> This web site promotes resources written by a registered dietitian/social worker who has been a pioneer in teaching food dynamics between parents and children. For advice on feeding infants, I recommend the book *Child of Mine*, and the video and accompanying teacher's guide *Feeding with Love and Good Sense*. You can find these under the section for professionals. We will review other sections of her web site in the next module.

Assignment: Basic Knowledge Review

Based on your assigned readings: Chapter 12 in your textbook, the CD-ROM section "Mother and Infant", and the resource links provided above, answer the following questions and email your responses to me. (Most of the answers can be found in your textbook – don't worry about reading every single line in the web site articles).

20. Name the nutrients for which the body's requirement increases during pregnancy.
21. Why is folate so important in pregnancy?
22. Malnutrition late in pregnancy is most likely to affect which organ of the fetus most severely?
23. What is the recommended weight gain (in pounds) for a normal weight woman? What about for teens?
24. Pregnant teens are more likely to have higher rates of which complications and/or outcomes? List 3.
25. What do teens say they want from schools/teachers when it comes to sex education teachings? Read:
<http://parentingteens.about.com/parenting/parentingteens/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.teenpregnancy.org%2Ffactstats.htm>
26. Why is dieting during pregnancy hazardous? What about dieting during lactation?
27. What behaviors or substances should pregnant women avoid? Name at least 5.
28. Describe fetal alcohol syndrome and how it can be avoided.
29. List 3 advantages of breastfeeding over bottle feeding.
30. Name two factors that indicate an infant's readiness for solid foods.

This assignment should be emailed to me by 5/4/00.

Current Location: Module 9 - Nutrition to Grow On: Advice for Children and Teens

9-1: Reading Assignment

In your textbook, read pp. 469-486.

CD-ROM > Outline > Growing Years

YOUR ASSIGNMENTS IN THIS MODULE ARE DUE 5/11/00.

9-2: Nutrition for Children and Teens

Let's start this section by reviewing some of the patterns seen in growth and development during childhood and adolescence, as these have an impact on the child's appetite and feeding behavior.

Infancy: This is a period of rapid growth. Infants usually double their birth weight by 4-6 months, and triple their weight by their first birthday. Length usually increases by 50% in the first year. As a result of all this growth, infants tend to have fairly consistent appetite patterns.

Toddlers: Growth rate begins to slow down, often resulting in a corresponding decrease in appetite that often confuses new parents. Appetite often fluctuates for toddlers, and the amount they can eat in one sitting is limited to about the size of a fist; therefore, small, frequent feedings are most appropriate. Food battles are common as they are just learning to say "no". Toddlers tend to be neophobic, meaning they are fearful of new foods and tend to stick with familiar items. They are also learning to self-feed, and this can be upsetting to parents who desire a clean eating area. Parents should be encouraged that it's OK to let the child touch their food (even though it's messy), and that it's important for the child's development to be allowed to do so.

Preschoolers: This age group is very focused on autonomy, or the "I can do it myself" phase, so it is important to allow them some decisions with food choices and preparation. Children this age tend to have excellent internal regulation of food intake, meaning they can clearly recognize when they are hungry or full. (Interestingly, by the time they are 5 this ability begins to diminish, and research has shown that if served larger portions, older children will eat more. This could have a negative impact on obesity).

Neophobic food patterns usually continue for preschoolers. Children develop a core of comfortable foods, and this is developmentally normal behavior. Studies have shown that you can offer a new food to preschoolers 10-15 times before they will accept it. The message here: don't give up! Children will add new foods after repeated neutral exposure (meaning they should not be forced or bribed to eat certain foods, such as vegetables!) For more advice on how to get children to eat healthfully, I recommend Ellyn Satter's web site as the authority on these types of interactions. Go to <http://www.ellynsatter.com> > You and Your Eating > What Kids Teach us About Eating, and under the section "Parents" > The Division of Responsibility, FAQ's, The Finicky Eater, The Poor Eater, and The Obese Child. Her books are also excellent.

School-aged children: At this age, kids become very friend-centered, and parental influence over food choices begins to decrease in response to peer pressure and exposure to outside influences. It is also a period of slowed growth, so eating patterns may change again. On the positive side, children are becoming more independent and have improved self-control, so food battles may start to decrease. Neophobic food tendencies often wane at this time, as well.

Adolescence: The teenage years mark another period of rapid growth, so appetite should start to increase.

Teens are searching for self-identity and are even more influenced by their friends. This often has ramifications with eating, such as increased interest in becoming vegetarian, or dieting issues for girls. Boys often become focused on eating for bodybuilding.

Tips for Promoting Positive Eating:

- Encourage family meal times whenever possible. This is important for social interactions as well as optimizing nutritional intake. A recent study looked at eating habits of 16,000 kids, and it reported that those kids who regularly ate supper with their family consumed

- more fruits and vegetables, less fried foods, fewer saturated fat/trans fats, and more fiber than those who rarely ate with their parents.
- Try to minimize eating in the car, in front of the TV, etc.
 - Provide a relaxed, non-pressured atmosphere while eating. Discourage negative discussions during family meals.
 - Help children learn the difference between hunger and satiety. Recognize your own child's cues.
 - To minimize food battles, try to be flexible while setting limits. Allow children to have limited choices in food decisions (i.e. offer 2-3 suggestions for lunch, only). Avoid becoming a short-order cook!
 - Help toddlers separate eating from playing. Be sure to use appropriate equipment, such as high chairs or booster seats. Remove them from the table once they are not interested in eating anymore.
 - The parent's job is to offer a nutritious, varied diet. Plan ahead for healthy meals and snacks rather than waiting until the last minute when choices are limited and the child is very hungry.
 - Remember that the child's job is to decide when and how much they are going to eat. Try not to react in a positive or negative manner to your child's eating.
 - Teach children that foods are neither good nor bad. Do not forbid any foods since it tends to make the food more desirable. Teach moderation and set limits with less healthful foods.
 - Set a good example yourself. Children who view adults eating fruits and vegetables are more likely to eat these foods themselves.
 - Remember that food preferences and eating behaviors change over time in accordance with developmental patterns. Compare the way you ate as a teenager with the way you eat now.
 - Continue to provide support and reinforcement with eating issues. Be consistent in your message.

Review of Resources:

Web Sites and Articles Related to Nutrition for Children and Teens

- <http://www.usda.gov/cnpp> Page 471 in your textbook illustrates the Food Guide Pyramid for Young Children. For the complete resource, visit the web site or call 1-800-687-2258 to request copies (free). The complete publication comes with a helpful teaching guide.
- <http://www.eatright.org/adap0199.html> American Dietetic Association's Position Statement: "Dietary Guidelines: Children 2-11 years"
- <http://nutrition.about.com/health/nutrition/library/weekly/aa083099.htm> Excellent article on children's eating habits.
- <http://www.dole5aday.com> The Dole Food Company promotes the National 5 A Day for Better Health Program, which strives to get adults and children to eat 5-9 servings of fruits and vegetables per day. Check out the nutrition materials for teachers, as well as the kids cookbook, the 5 A Day Chart, coloring books, and games. They also have an excellent CD-ROM that is free for elementary school teachers. This URL is a must-have for your personal resource library.
- <http://www.familyfoodzone.com> Sponsored by the National Dairy Council, this site is a powerhouse of nutrition information for children. Click on this link to get ideas for classroom activities, online interactive nutrition games, and healthful recipes.
- <http://www.nutritionforkids.com/emlnews/FK-JanFeb98.htm#TEA> and <http://www.nutritionforkids.com/emlnews/FK-NovDec99.htm#tea> "Teacher Tip: Cooking with Kids"
- <http://www.tinytummies.com/column.html#study> Article (on Registered Dietitian's web site) containing interesting statistics on eating habits of children and teens, tips on healthful eating for families, recipes, ways to increase fruits and vegetables.
- <http://parentingteens.about.com/parenting/parentingteens/library/weekly/aa082200a.htm?terms=teen+nutrition>

- <http://nutrition.about.com/health/nutrition/library/news/bl061400a.htm?terms=teen+nutrition>
- <http://parentingteens.about.com/parenting/parentingteens/library/weekly/aa082200d.htm>
- <http://nutrition.about.com/health/nutrition/library/weekly/aa031300a.htm>
- <http://parentingteens.about.com/parenting/parentingteens/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.kidsource.com%2Fkidsource%2Fcontent3%2Ffic%2Ffic.breakfast.k12.3.html>
- <http://www.nutritionforkids.com/emlnews/FK-SeptOct99.htm> Read section titled "Teacher Tip: Eating Healthy for Teens".

Assignment: Feeding Scenarios

This activity will give you an opportunity to utilize many sources of information as you answer each question. You can draw upon your own experience as a teacher and/or parent, in addition to the information you've obtained in this course. You can also do further research if you'd like. The questions will be based heavily on the reading assignments and links in this module, in addition to some previous module discussions. There is no right or wrong answer to these scenarios – I am looking for some thoughtful, critical thinking here, using both science-based evidence and your own experience.

For the following scenarios, respond by advising the person on how to solve the problem. Please answer the question in 5 sentences or less, if possible. You will be emailing me with your responses, **due by 5/11/00**.

Scenario 1:

"My 18-month old daughter used to be such a good eater, but she has stopped eating the food I serve her. In fact, she seems to be mostly playing with the food instead of eating it. This behavior is making me crazy! What should I do?"

Scenario 2:

"I'm afraid if I let my kids eat too much fat and sugar now, they'll end up with health problems later on. How do I handle this?"

Scenario 3:

"TV ads and peer pressure destroy all my efforts at instilling good eating habits in my children. What can I do?"

Scenario 4:

"I know I should offer my kids a variety of foods, but it's such a waste! They won't eat anything I cook, so I might as well let them go out for fast food since that's what they want."

Scenario 5:

"My three year old will refuse to eat dinner, then is looking for ice cream about an hour later. What should I do?"

Scenario 6:

"My kids will only eat sugared cereal for breakfast. I'm afraid they'll be bouncing off the walls by noon since I heard sugar causes hyperactivity. Besides, there's no nutrition in that stuff, is there?"

Scenario 7:

"My thirteen year old daughter is overweight, just like me. I have put her on a diet. Do you think I should send her with a bag lunch instead of eating the school lunch?"

Scenario 8:

"My teenage son won't eat any fruits or vegetables. I'm afraid he might develop a nutritional deficiency. What should I do?"

*Note: Thank you to Karen McGrail, RD, for her assistance in developing this activity and providing an outline of children's developmental stages in feeding.

9-3: School Meal Programs, Nutrition Education in Schools

Resources, Information on School Meal Programs, Nutrition Education in Schools:

- <http://www.nal.usda.gov:8001/team.html> Healthy School Meal Resource System (HHMRS) is a searchable web site, providing information to persons in USDA Child

Nutrition Programs. Users can search reports of studies on a variety of topics, such as Nutrition and Learning Behavior, Obesity in Children and Benefits of School Breakfast/Lunch. It also has on-line discussions groups for a variety of purposes. One is for teachers, parents, school health professionals and community members interested in creating a healthy school and nutrition environment. Members can share success stories, resources, and innovative program ideas.

- <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000040> Report from the National Center for Education Statistics (NCES) regarding inadequate time spent on nutrition education in elementary classrooms. Although it is a lengthy document (27 pages) and requires Acrobat Reader, I would like you to review it, with careful attention paid to the following sections: pp.10-12 (how nutrition can be integrated into other subjects), pp. 16-18 (lists some of the barriers in working with school Meal Programs staff in providing nutrition education), and pp. 18-20 (describes some ways in which parents can be involved in nutrition education).
- <http://www.cdc.gov/nccdphp/dash/SHI/index.htm> The School Health Index (SHI) is a self-assessment planning guide that enables schools to evaluate and improve their nutrition and physical activity programs.
- <http://www.nutritionforkids.com/emlnews/FK-SeptOct99.htm> Read section titled "Ask Connie: Is School Lunch a Healthy Choice?"

Assignment: Discussion on Vending/Soda Machines in Schools

Here is a situation that bothers many parents, teachers, and nutrition professionals. How do you all feel about schools selling junk food and soda on the premises? What do you think some of the issues are in your particular school? Should teachers get involved? If so, how? What are some proposed solutions?

Please limit your response to one short paragraph. **Post your response to the discussion board by: 5/11/00.**